1-15

11 Cruciferae

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MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

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GERANIUMS—continued.

Geraniums, Acme, light scarlet, white eye, fine.
Conqueror, deep rose.
Cyclops, rosy scarlet, suffused with shaded purple, with vivid amaranth carmine flame on upper petals, new color, of fine form.
Donald Beaton, orange scarlet, good truss.
Dr. Muret, orange scarlet, with immense truss, very free blooming, one of the finest for winter, extra fine.
Father Moltke, white, scarlet stripe, novel, good.
Forester, rosy pink.
Formosa, white, with salmon stripes, novel.
Gen'l Grant, bright scarlet, large truss, free blooming; it has proved to be the best bedding geranium we have seen.
Gen. Lee, shaded crimson, with immense truss.
Gen. Sheridan, bright scarlet, free blooming, large truss.
George W. Earl, pure white, with deep pink centre, very large truss, free blooming, extra fine.
Geo. Peabody, dark crimson scarlet, white eye, fine.
Gem of the West, soft rose, very free, fine for bedding.
Glorie de Corbeny, shaded salmon, fine.
Iago, orange scarlet, fine strong grower, free blooming.
Jean Sisley, bright scarlet, with conspicuous large white eye, very free flowering; extra fine.
Karl Koch, extra fine scarlet.

Geraniums—continued.
Louis Vieullot, crimson scarlet, very fine.
Madam Dureau, pink, free blooming, good form and large truss, extra.
Madame Vaucher, pure white.
Madame Werle, white, pink eye.
Miss Nilsson, salmon rose, immense truss, free blooming.
Mrs. Elliott, pure white.
Master Christine, pink, very free bloomer.
Purity, style Madame Werle, very free flowering.
Reine Blanche, large white, suffused with rosy tint.
Snowball, pure white.
Beauty of Kingsessing, white centre and margin, with a fine salmon belt, large and full truss.
Daniel Webster, light crimson, fine large truss.
Henry Clay, dark crimson, fine.
Indian Chief, bright copper color, fine large truss.
James Taylor, magenta color, large truss.
Marksman, violet rose color, immense truss.
Martha, violet crimson color, with fine large truss.
Rosy Gem, bright rose, very large truss.
Red Man, compact grower, pale red, fine truss.
Surprise, peach color, shading off to white, large truss.
Wm. K. Harris, blush, pale red centre, large truss.
Wm. Makemson, upper petals salmon, lower petals violet rose, pure white eye.

MISSOURI BOTANICAL GARDEN
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GERANIUMS—DOUBLE.

25 cents each; $2.50 per dozen.

Andrew Henderson, clear scarlet lake, strong grower.
Asa Gray, dwarf, free flowering habit, flowers salmon edged with white, very full and double.
Captain L'Hermite, amaranth, tinted with rose.
Charles Lyell, fine dwarf variety, flowers rich apricot, bordered with white; good.
De Tocqueville, scarlet crimson, darkest of all the doubles.
E. G. Henderson, carmine.
Glorie de Nancy, rosy red.
Goliath, strong habit, immense truss of amaranth scarlet.
La Vesuve, brilliant scarlet.
Madame Lemoine, clear rose color, very fine.
Terre Promise, immense trusses, large and full, bright satiny red color.
Triumph, bright scarlet, large truss.
Victor Lemoine, vivid scarlet, free blooming, dwarf grower.
Wilhelm Pfitzer, orange scarlet, bright and very double.

GERANIUMS—GOLDEN AND SILVER VARIEGATED.

25 cents each; $2 50 per dozen.

Alma, broad white margin.
Brilliant, scarlet flowers, very free blooming.
Bijou, pure white border, good grower.
Castlemilk, fine bedder.
Fontainebleu, creamy edge, with rosy flamed zone.
Flower of the Day, sulphur edge, green centre.
Miss Hunter, a good old bedder.
Mountain of Snow, pure white edge, lively green centre.
Shottesham Pet, free growing.
Rose Queen, silver tricolor, with rose zone, creamy white border.
Italia Unita, white margin, with carmine zone, beautiful silver tricolor.
Mrs. John Clutton, well defined crimson zone, sulphur edge, free grower.
Quadricolor, a bold grower, with bright rosy red zone.

25 cents each, $2.50 per dozen, except where noted.

Circlet, narrow brown zone, yellowish surface.
Marshal MacMahon, dark zone.
Miss Polock. 50 cents each.
Prince of Wales, neat habit, finely delineated zone of dark bronzy brown.
Southern Belle, fine broad dark zone, on hirsute golden surface; bold, strong grower.

0 1 2 3 4 5 6 7 8 9 10
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Hothouse & Greenhouse Plants—continued.

	Each.	Per doz.
Fuschia; of this class we grow all the leading varieties of both double and single. Annexed is a partial list of what is grown by us.		
Arabella, white, rose corolla	25	$2 50
Avalanche, bri't carmine, violet corolla, fine double	25	2 50
Coccinea rosea, species	25	2 50
Elm City, bright scarlet, dark purple corolla	25	2 50
Fulgens, red	25	2 50
Mazeppa, pink, deep red corolla	25	2 50
Napoleon, blush, crimson corolla	25	2 50
Purple Prince, tube and sepals, waxy carmine, corolla deep violet	25	2 50
Queen of Whites, double	25	2 50
Rose of Castile, white, violet corolla	25	2 50
Sunray, beautiful variegated variety, leaves white and green; flower scarlet tube with purple corolla	25	$2 50
Fuschia—continued.		
Speciosa, carnation color, fine for winter blooming	25	2 50
Sir Colin Campbell, crimson sepals, dark purple corolla	25	2 50
White Lady, crimson sepal, w'te corollo	25	2 50
Gardenia (Cape Jessamine), hothouse evergreen, having beautifully sweet-scented flowers of a pure white color.		
Florida	25	
Florida Fortunii	50	3 00
Florida Multiflora	50	
Florida Radicans	25	
Gazania splendens, large orange flowers; good plants for bedding; stands sun well	15	1 50

GERANIUMS, for Summer Blooming.

There is no class of plants which give so much satisfaction when bedded out. In this country they succeed to perfection, flowering profusely during the heat and drought of our summer. They are equally valuable in the plant house during winter.

25 cts. each, $2.50 per doz.
Second size, 15 cents each, $1.50 per doz.

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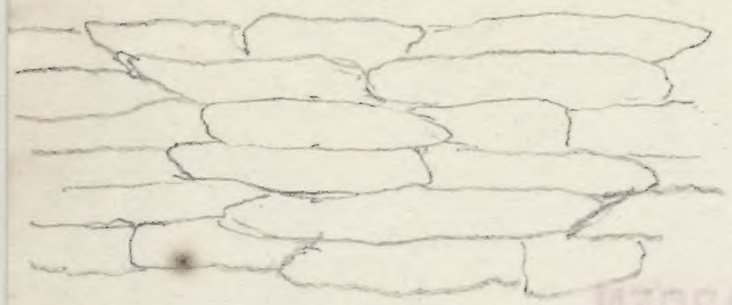
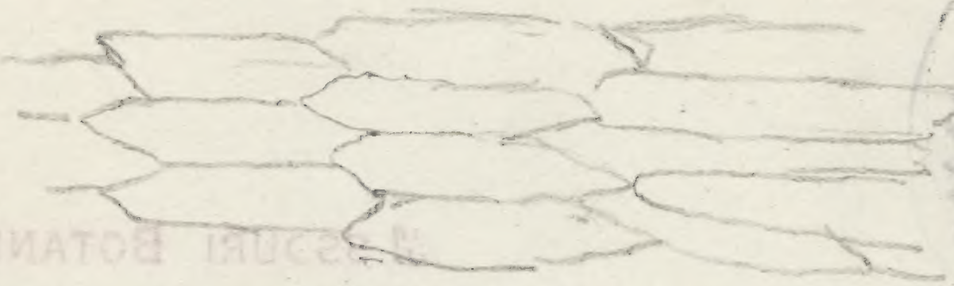
Cells of Diaphragma of Lecanocotheca × 150 May 6 1882

1. L. stylosa



2. L. tomlosa



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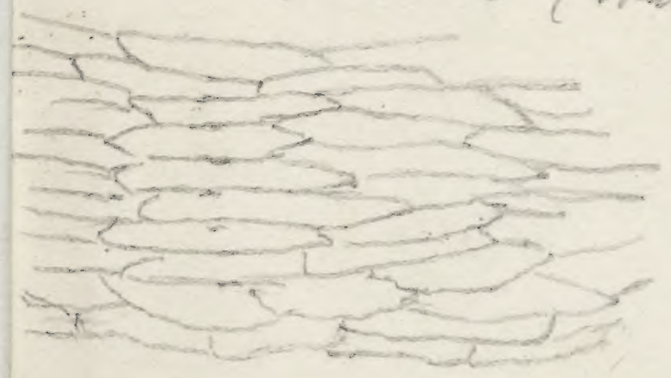
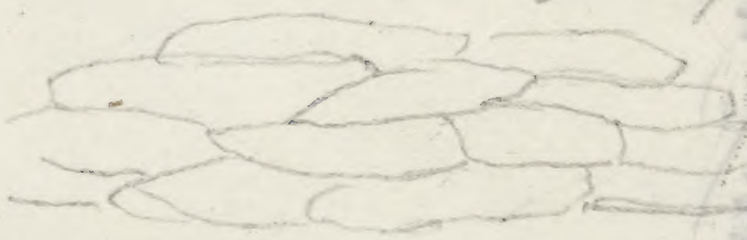


4 L. Michauxii
Gallapagos



5. L. Missouri

Index:
3 smallest meshes
1
4
2
5 largest.

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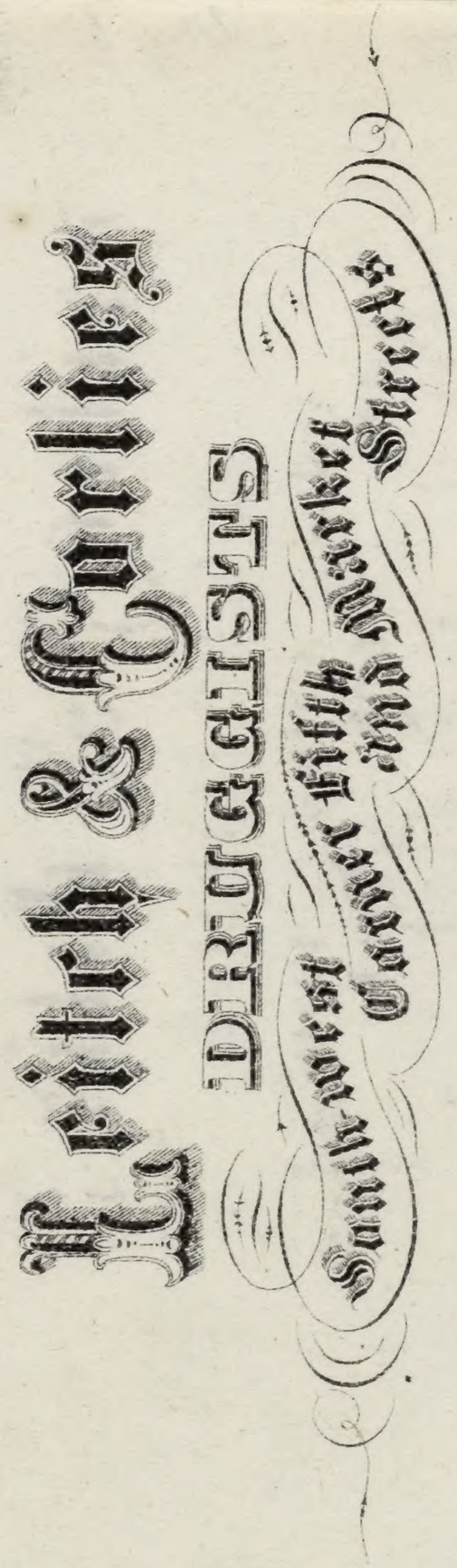

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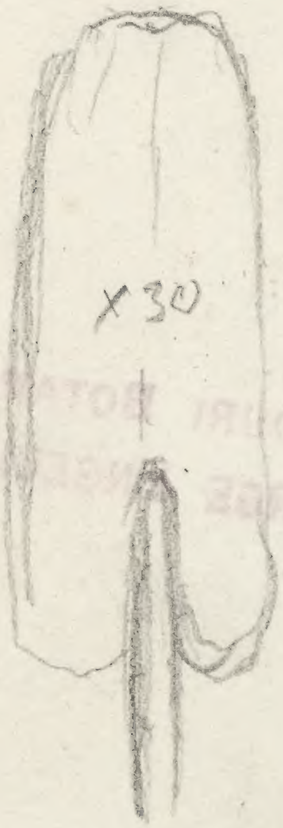
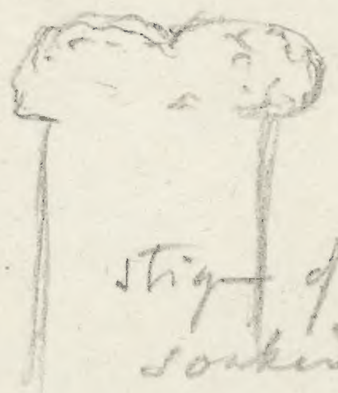
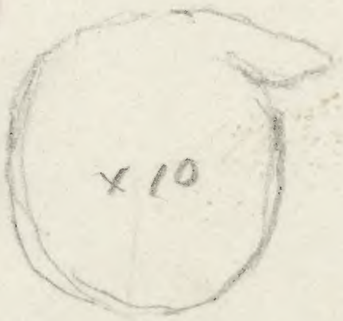
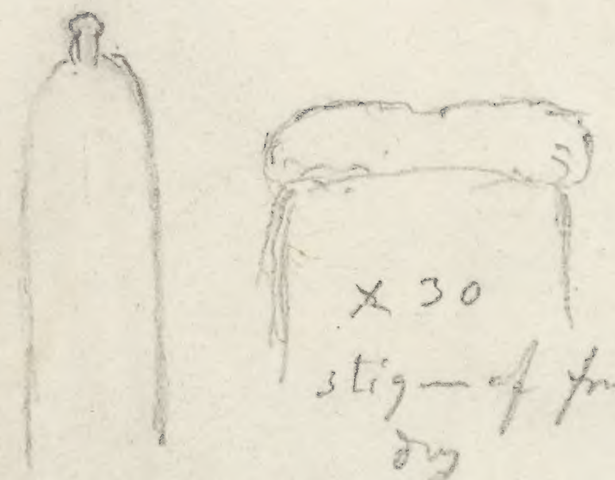
Leavenworthia

Missouri March 1882





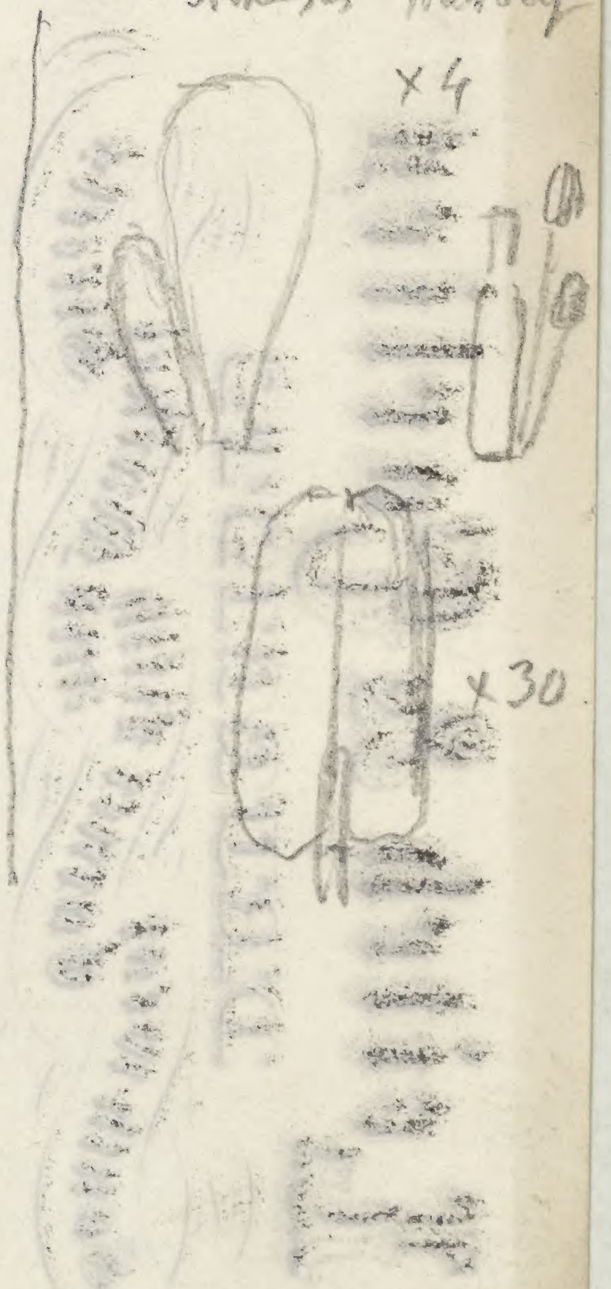




stigs of fruit 1–2 mm long
usually 1½ mm

May 6 1882

Atkins Harvey



x10 fully ripe seed
with embryo
May 14 1882

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cm
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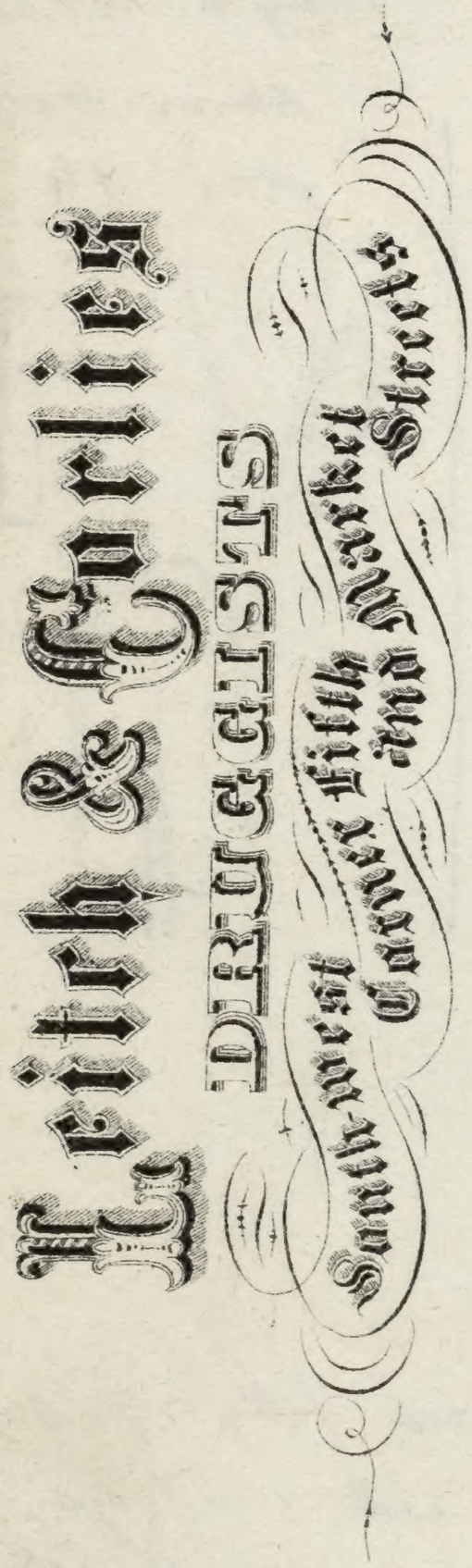
Missouri Botanical Garden
George Engelmann Papers



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Leavenworth Kansas
Reuben Peters

× 4

of flowers
stigm × 30
soaked
(old)

stigm of fruit
dry × 30

anther × 30

× 10

siligm
× 2

Leavenworth Michaux May 6 1882
Tennessee, Gattinger

× 4

stigm of flower, soaked
× 30

siligm
× 2

× 10

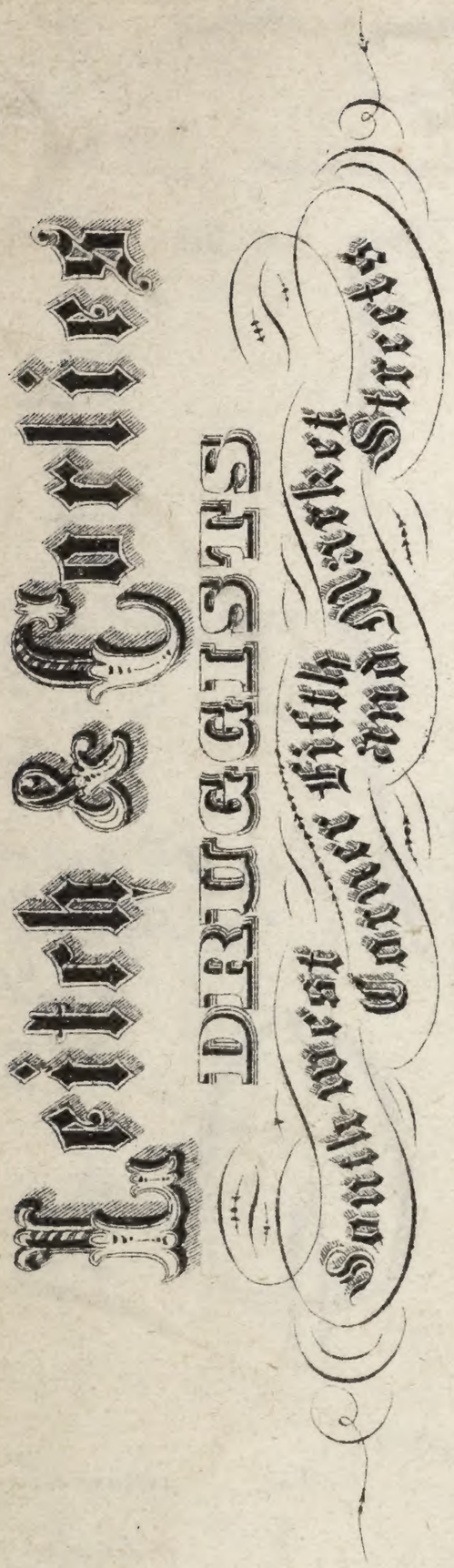
dry stigmas
& style of
fruit
× 30

anther
× 30

immature
seed with
nearly straight
radicle

170

Missouri Botanical Garden
George Engelmann Papers



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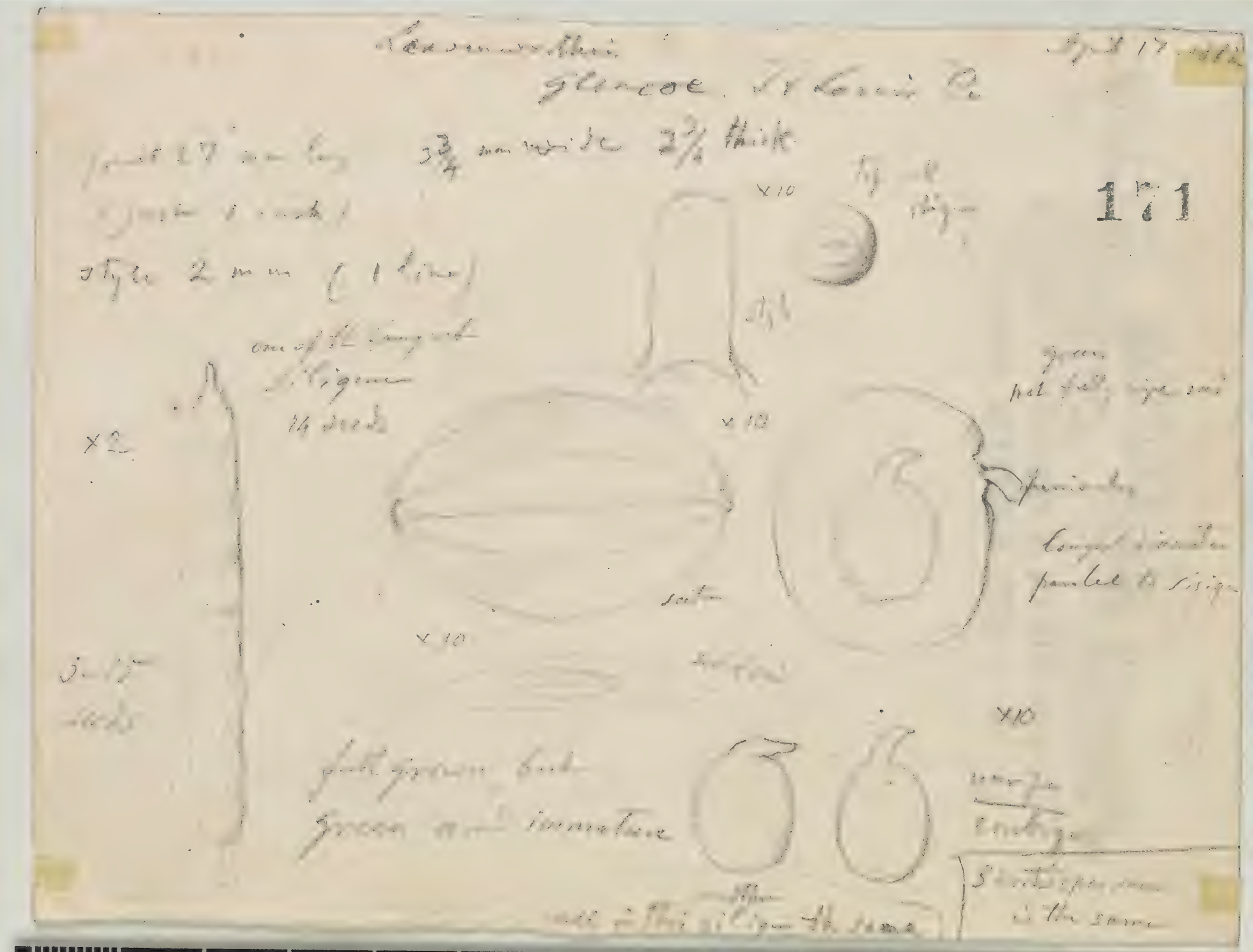

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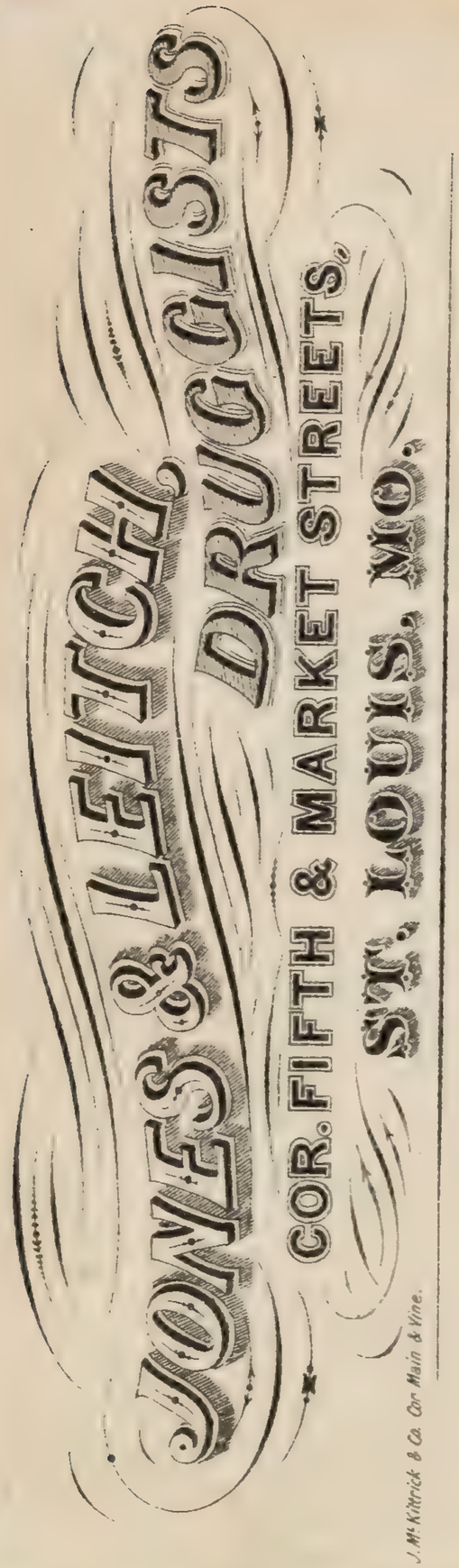

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN HERBARIUM

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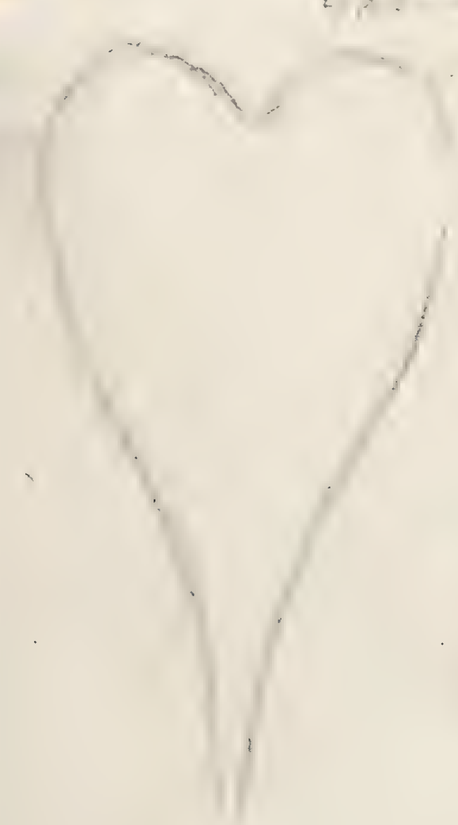

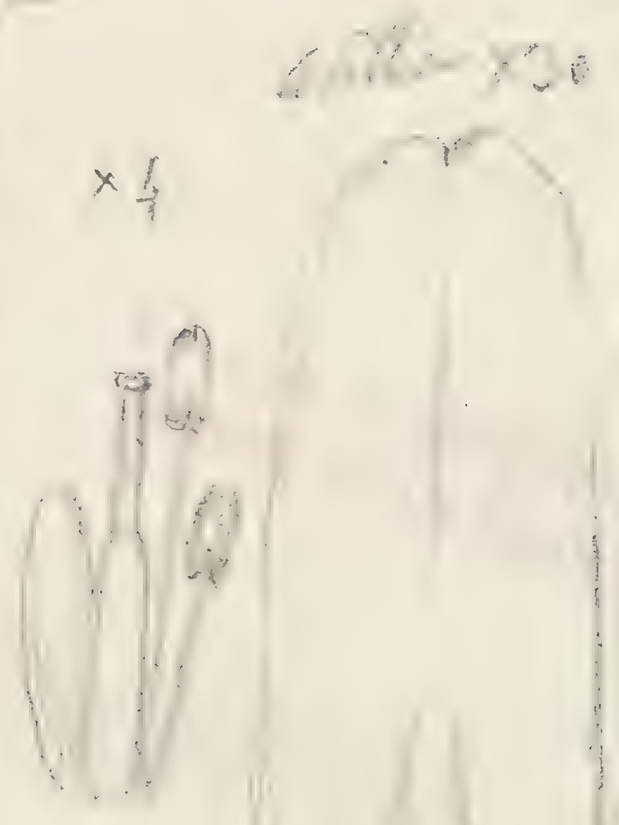

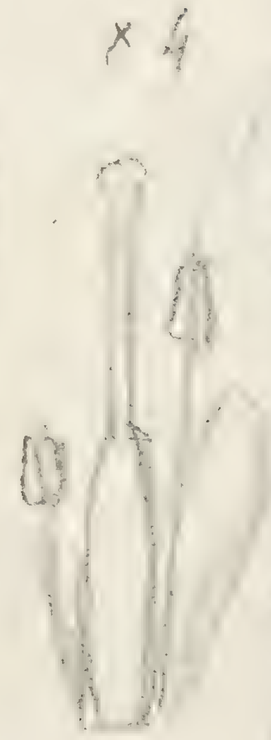

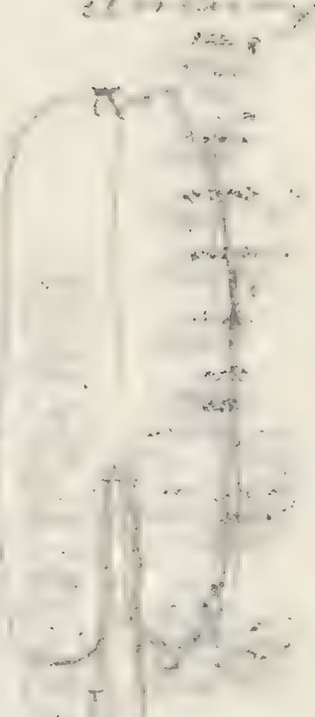

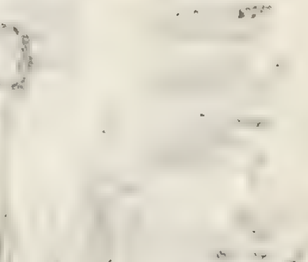

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cm
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Leitch & Carlies
DRUGGISTS
South-west Corner Fifth and Market Streets

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GEORGE ENGELMANN PAPERS

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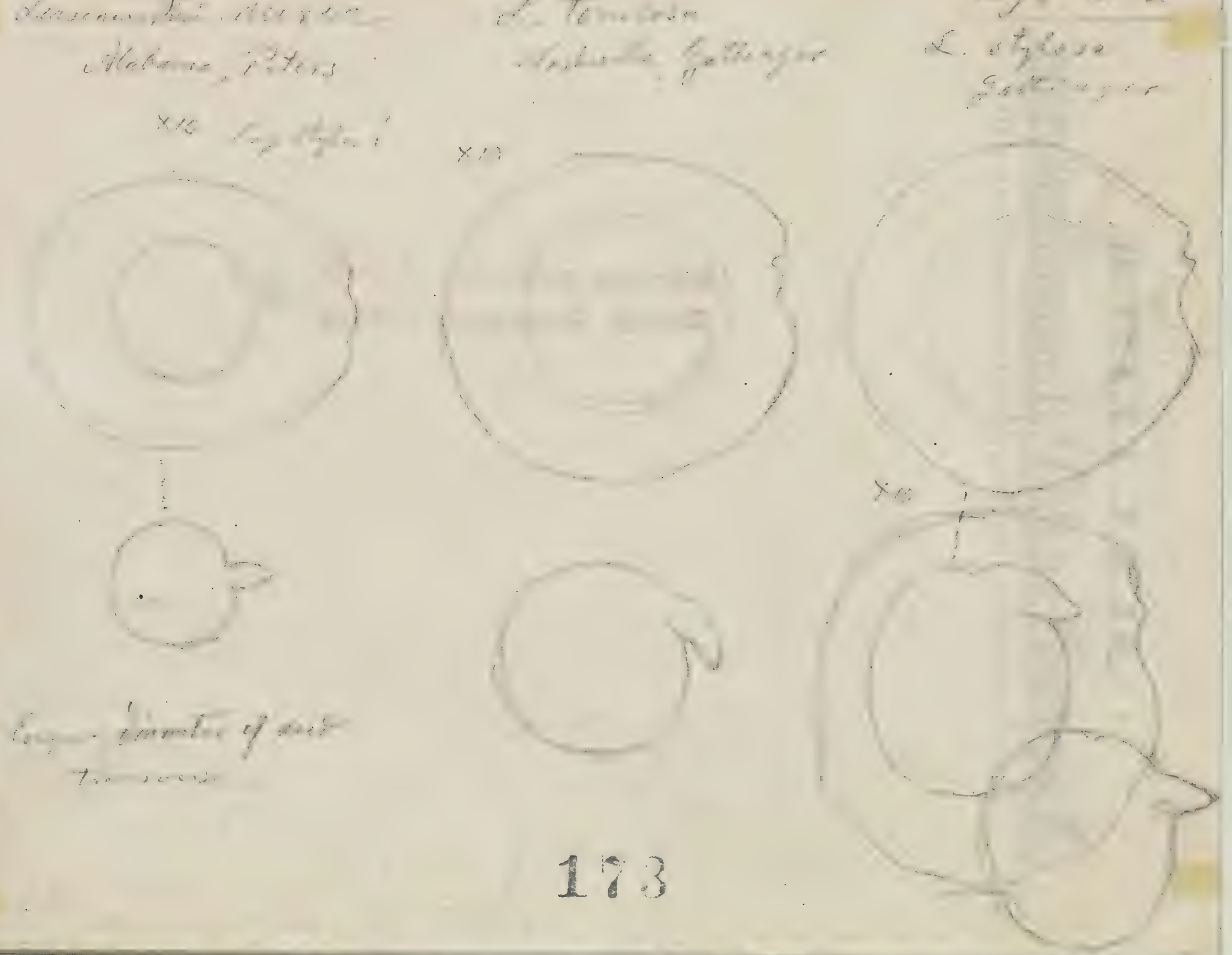

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ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

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ELÆACRINUS KIRKWOODENSIS, n. sp.

Body very small, subglobose, a little longer than wide, flattened above and below. Basal pieces very gently concave, with their edges on a level with the plane of the under side. Radial pieces (fork pieces) reaching to the base and occupying more than four fifths the entire length of the body, narrow below and widest in the middle, sides gently arched. Interradial pieces subdeltoid, very prominent towards the apex, much longer than wide, obtusely angulated below, acutely angulated above, and notched on either side a short distance below the summit. Pseudo-ambulacral areas extending from base to summit, narrow, deeply impressed; sides nearly parallel; pore pieces amounting to about fifty in each field. A longitudinal fissure or slit extends from the central summit opening downwards, separating the pore pieces of one side from their fellows of the opposite for the distance of about one fifth the length of the field, thence their inner edges are united in the median line to the base. Pseudo-ambulacral spaces lanceolate, sloping gently from their edges to the sutures. Ovarial apertures eight, very minute, situated at the notches of the interradial plates. Anal opening large, circular or very slightly elliptical. The surface markings are not plainly exhibited in any of the specimens I have collected of this species. On several of them I observe, more or less distinctly, irregular coarse rugæ or pittings, which, however, may be due to weathering.

Dimensions.—Length, 0.20 of an inch; width, 0.18.

The *Elæacrinus Kirkwoodensis* is nearly allied to *E.* (*Pentremites*) *melo*, from which it is distinguished by its much smaller size and less deeply excavated base. It also occupies a higher geological position.

Occurs in the St. Louis Limestone (Carboniferous) on the Pacific railroad near Kirkwood, St. Louis county, Missouri.

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Topaz in Utah. By Henry Engelmann.

During my explorations in Utah as Geologist of the Expedition under Capt. J. H. Simpson, Top. Eng'rs. U. S. A., in 1858 and 1859, I observed some remarkably beautiful crystals of Topaz among some detritus of trachytic porphyry. They were perfectly colorless, transparent, sharply developed, and of great lustre. They were all short columnar. The largest of them measured scarcely one third of an inch in the direction of the basal cleavage, which was highly perfect. I observed ten modifications: all crystals exhibited (according to Prof. Rose's designation)

∞ c : b : a ,	∞ c : b : 2 a ,	c : ∞ b : : ∞ a 1 ,
4 c : b : ∞ a ,	2 c : b : a ;	
most of them also	2 c : b : ∞ a ,	c : b : a ;
a few only	2 c : ∞ b : a , and	4 (?) c : b : a .

As in none of the crystals were both ends developed, I could not ascertain whether they were hemihedral, as is most common with topaz. The hardness of the mineral is =8. It is infusible before the blowpipe; and when strongly heated is coated with small blisters, but does not show any change of color. It exhibits the reactions of fluorine, alumina, and silex. No tests were made for other elements, nor were the crystals examined in regard to pyro-electricity and polarization of light. They exhibit double refraction quite plainly.

The locality of the mineral is near lat. 39° 40′, long. 113° 30′ west of Greenwich, west of south of Salt Lake, in Thomas' range of mountains, on Capt. Simpson's return trail. Circumstances prevented me from obtaining more than a few crystals, which are now deposited in the collection of the Smithsonian Institute; a few others are also in the hands of members of the party. We were travelling at the time by forced night marches with nearly worn out animals, seeking to gain a spring of water in a distant range of mountains. This desert was then entirely unexplored. I have but little doubt that more interesting materials are to be found at the same point.

The mountains of the former Territory of Utah promise a rich yield to the mineralogist. We know already of gold and silver ores in the east, west and south part of that district; of copper and lead ores in the south, and I have discovered the latter also in the centre of it; of specular iron ores and native sulphur in the Rocky Mountains and near Little Salt Lake; of rock salt in the mountains south-east of Utah Lake; of native alum near Salt Lake; of various other salts in the deserts; and of silicates, composing the granites, porphyries, diorites, trachytes, and lavas, nearly over the whole area.

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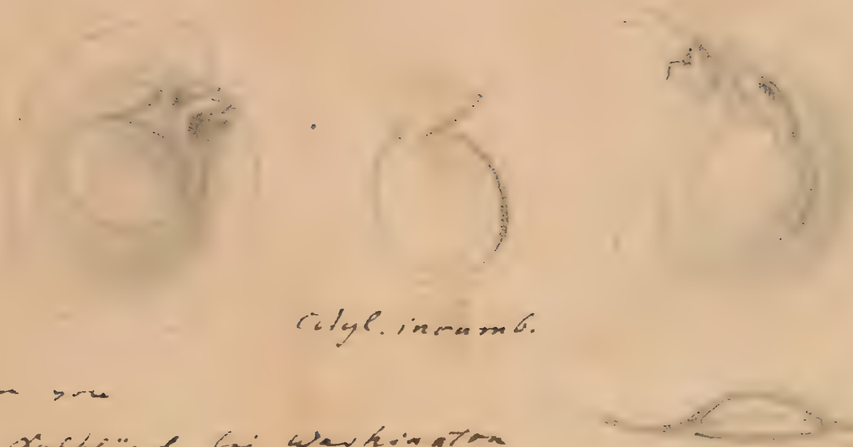
1839

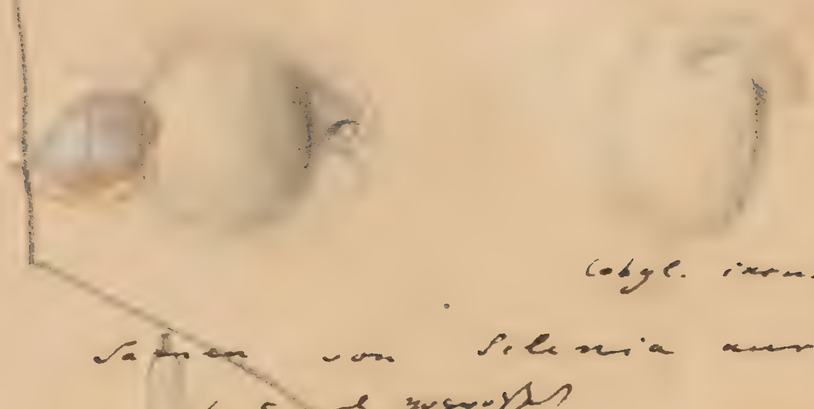
Silene antirrhina

1839



Cotyl. incumb.

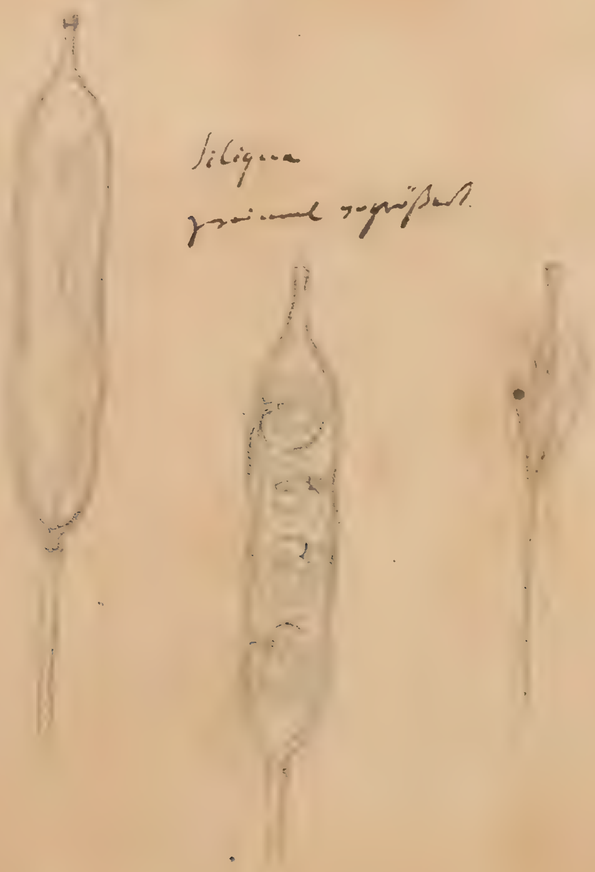
Samen von
Kalkhügel bei Washington
Franzen Cty Mo — Schüsse —
4-5 mal vergrößert.



Cotyl. incumb.

Samen von Silene antirrhina
4-5 mal vergrößert.

Silicula
2 mal vergr



Siliqua
zweimal vergrößert.

174

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APOTHECARY & CHEMIST,

Cor 4th & Olive Sts. St. Louis.

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March 7 1867

Polygonum Convolvulus

Cooks Mountain NC 1901

Persicaria Convolvulus

176

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APOTHECARY & CHEMIST,

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V30

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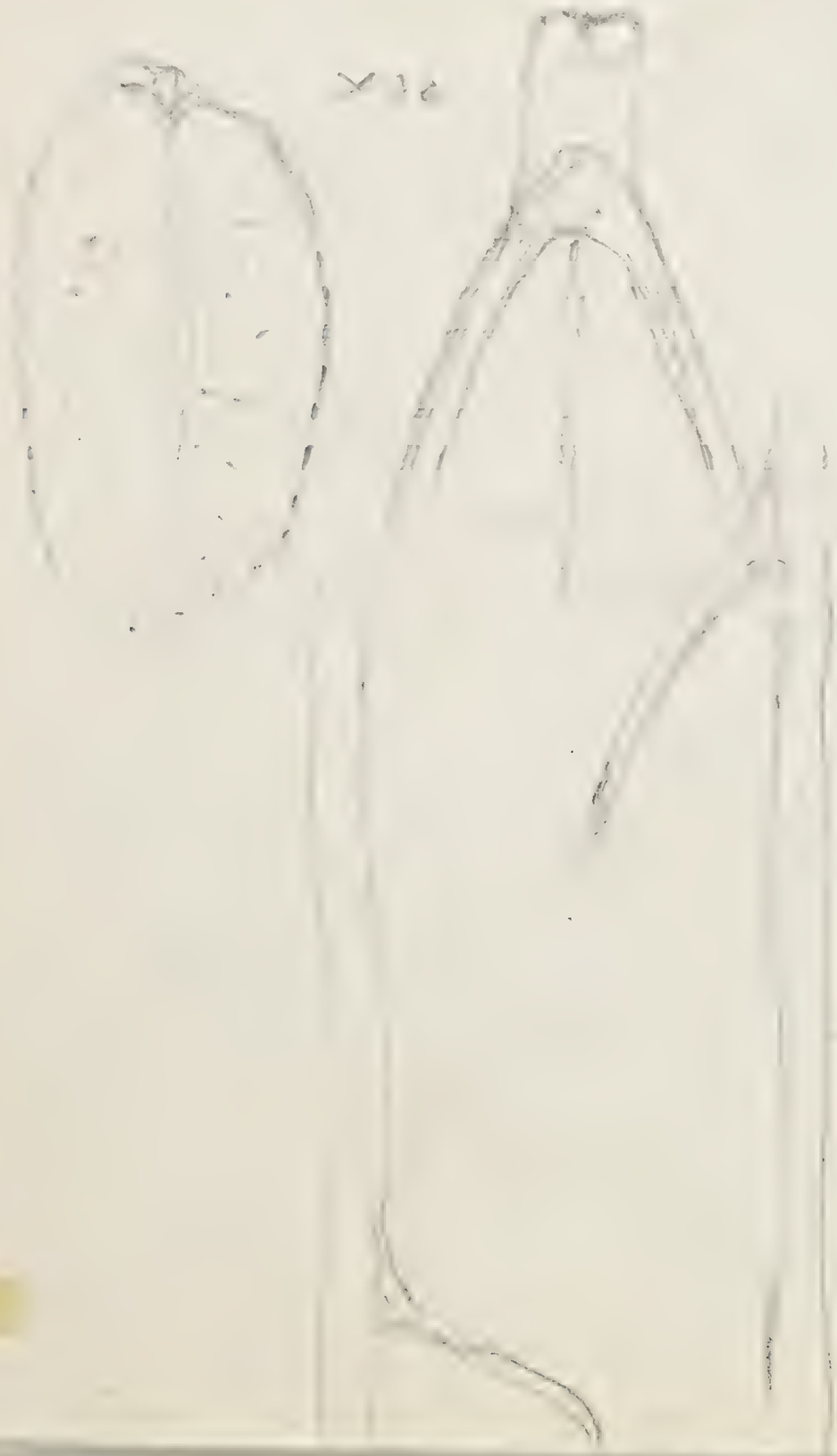
Saginaw Bay, March 7 1867

Fauna of Lewis Lake, Hayden, No 102



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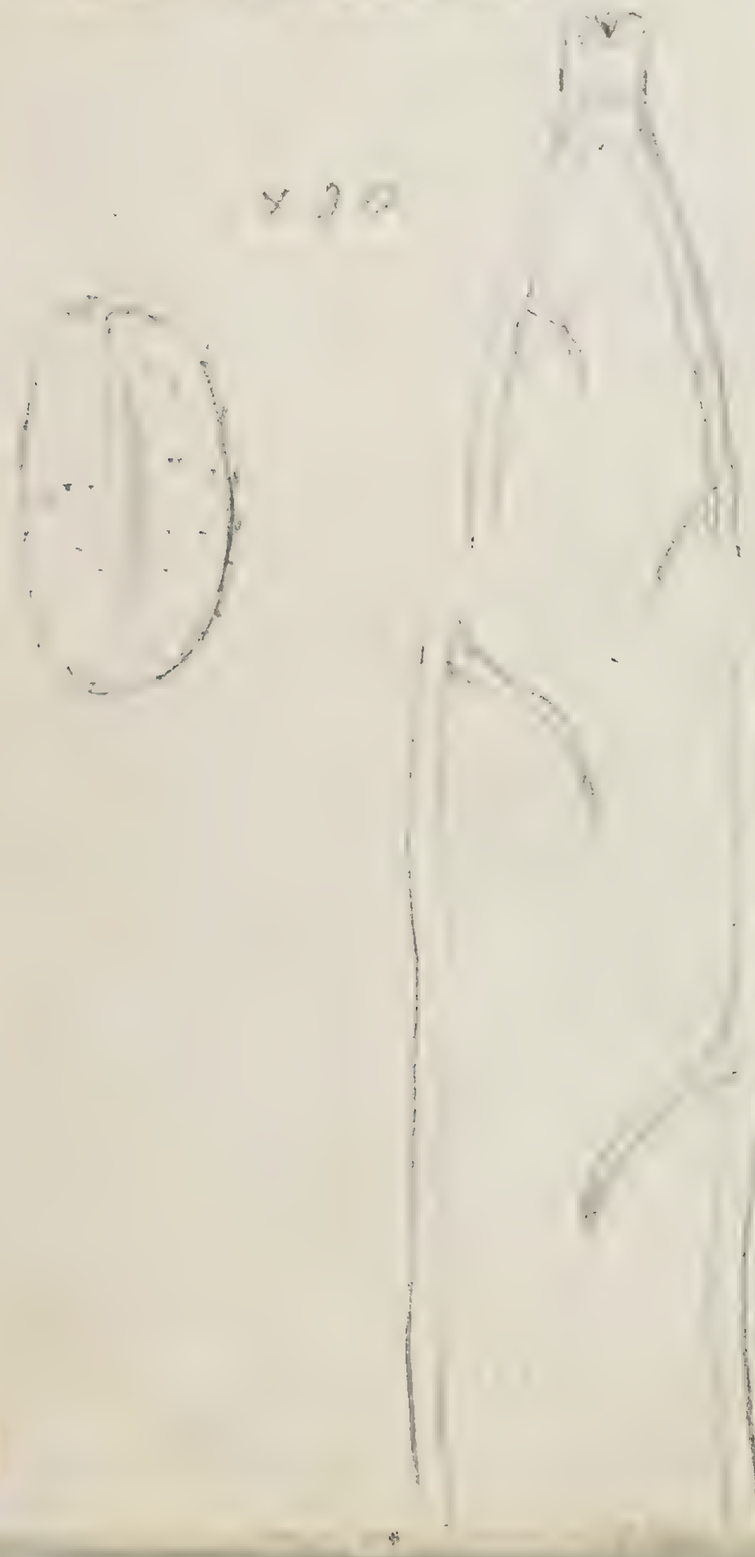

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Alex. Leitch,

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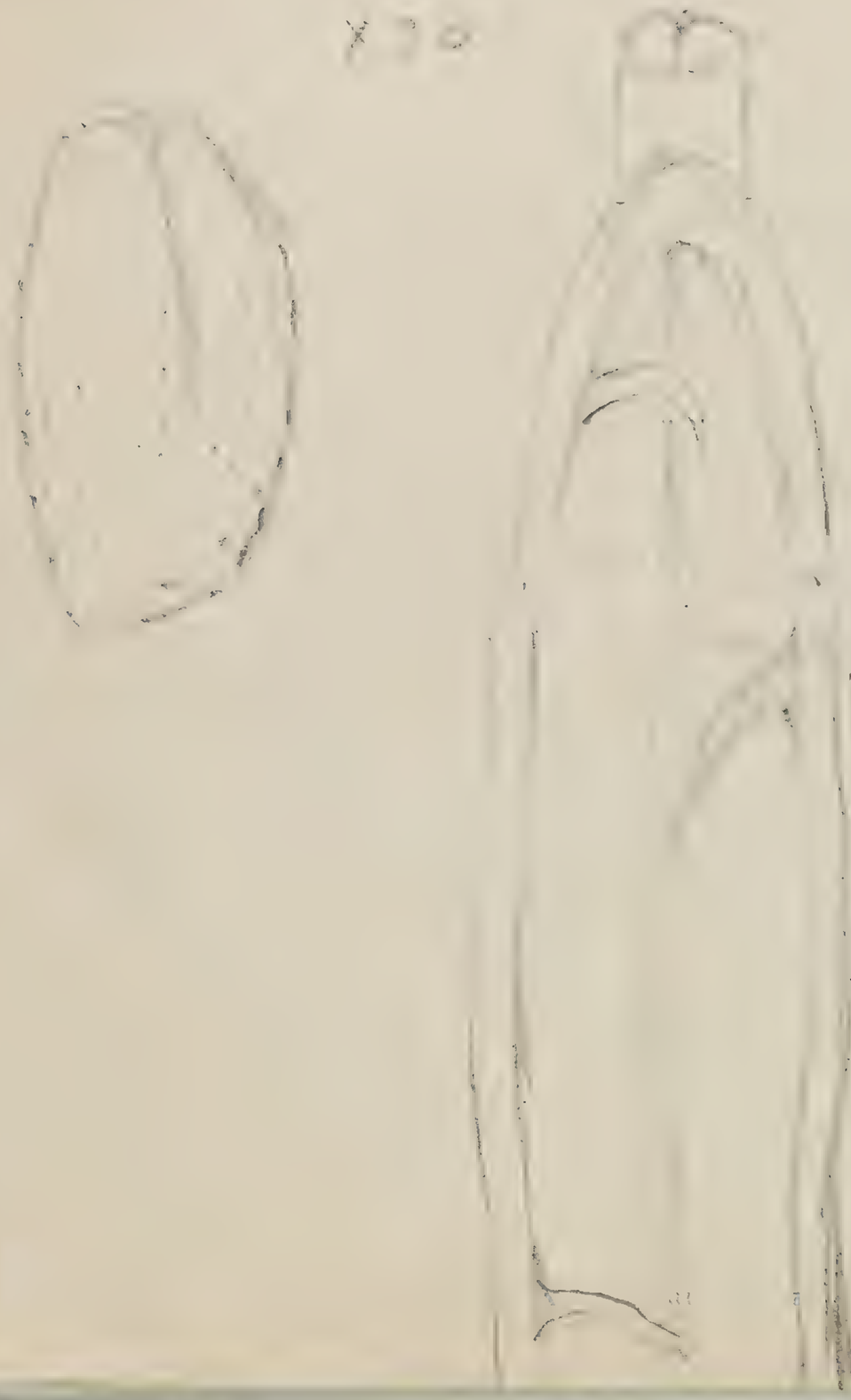
Sisyrinchium [illegible] Hook
Rivers & Orcutt — 3 E 1864
Pike Plains, Hayden Co. 109

Sisyrinchium montanum

X 10



180

0 1 2 3 4 5 6 7 8 9 10
cm
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MO

Alex. Leitch,

APOTHECARY & CHEMIST,

Cor 4th & Olive Sts. St. Louis.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 cm 1 2 3 4 5 6 7 8 9 10
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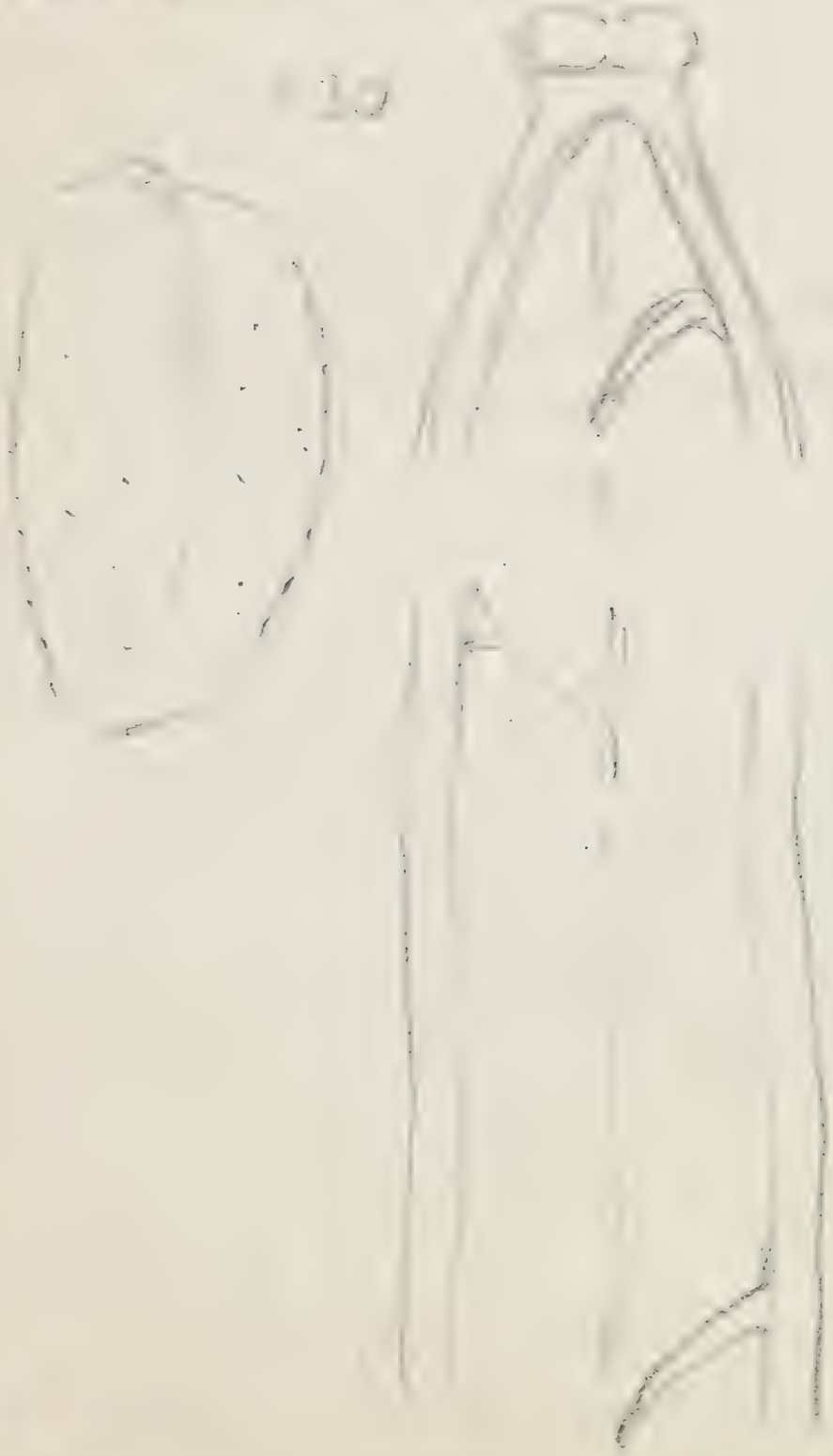
MO

March 9 1959

Signature

Richard A. Hoyle USN

Senior Assistant



0 1 2 3 4 5 6 7 8 9 10
cm
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0 cm 1 2 3 4 5 6 7 8 9 10
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MO

Sargassum Sophia

M. Peterson, Hegl

Sem. Immersio

X 20

182

0 1 2 3 4 5 6 7 8 9 10
cm
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0 cm 1 2 3 4 5 6 7 8 9 10
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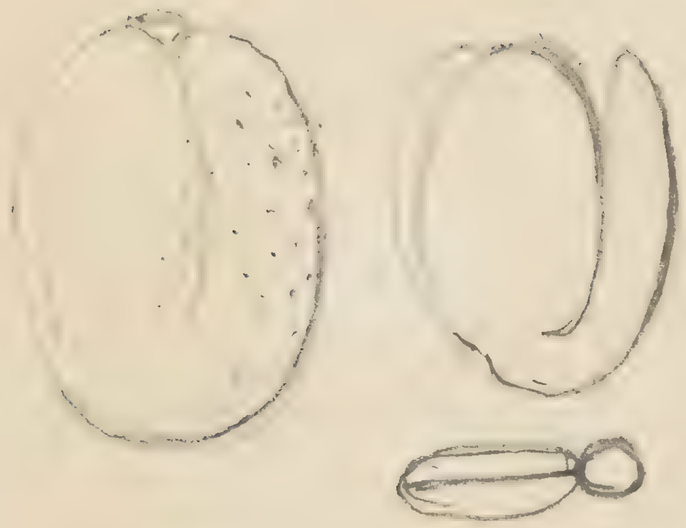
MO

Helichrysum petraeum March 14 1867
Germany

x 30



Cotyledons

183

Alex. Leitch,

APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

cm 0 1 2 3 4 5 6 7 8 9 10
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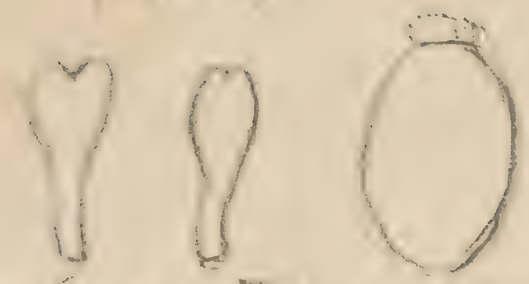
MO

×30

Hooker Icones Graminum

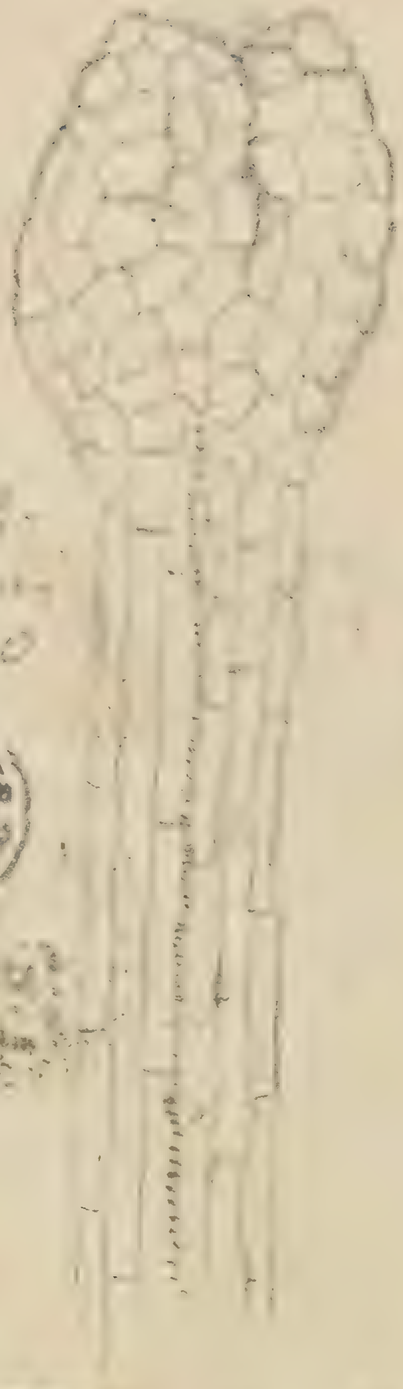
April 10 1861

184



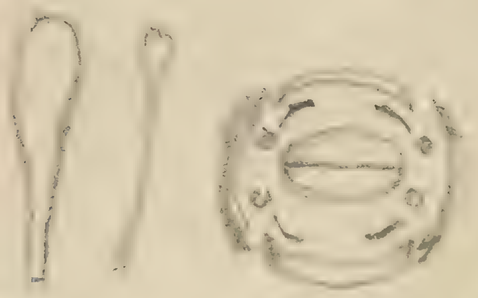
only 2 petals, stamen
(and 4 stamens ?) like

2 petals of
same flower

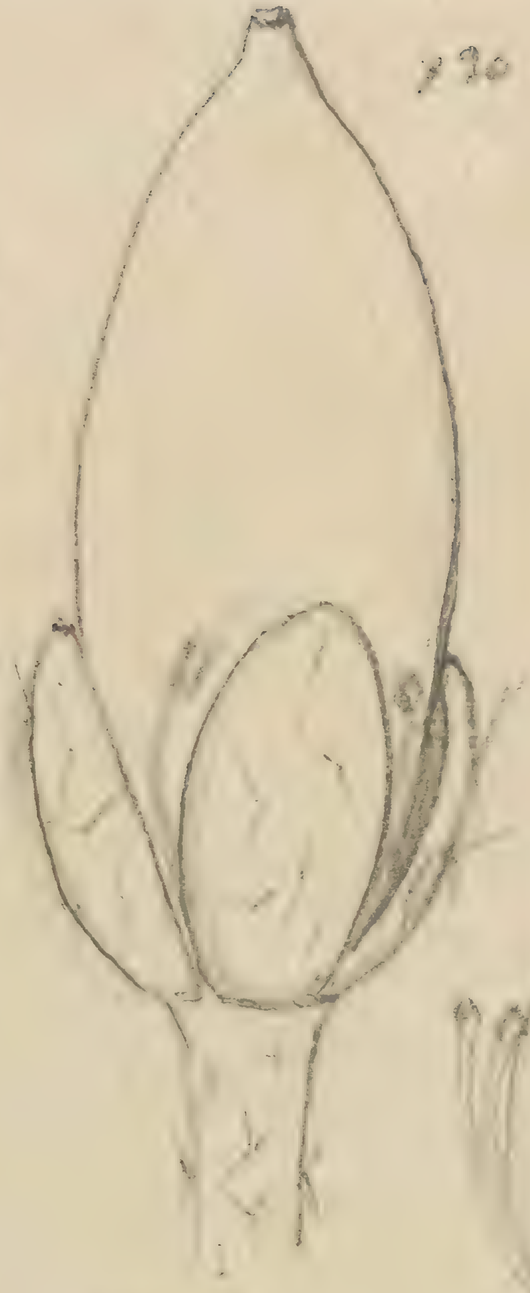


sterile
stamen
×20

petal
or 4
& the stamen



2 stamens attached to exterior, 2 petals
2 petals — — interior —



×20

6 sterile
stamens, no petals

after removal of 1 petal

of 2 petals

0 1 2 3 4 5 6 7 8 9 10
cm
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MO

M. W. ALEXANDER,

SOUTH-EAST CORNER OF FOURTH AND MARKET STREETS,

ST. LOUIS.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN

cm 0 1 2 3 4 5 6 7 8 9 10
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x 30

Stella Ornithogalum

Pollen x 412

30

Apr 10 1861

... stamen

pistil

x 270

185

Stamen

M. W. ALEXANDER,

SOUTH-EAST CORNER FOURTH AND MARKET STREETS,

ST. LOUIS.

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GEORGE ENGELMANN PAPERS

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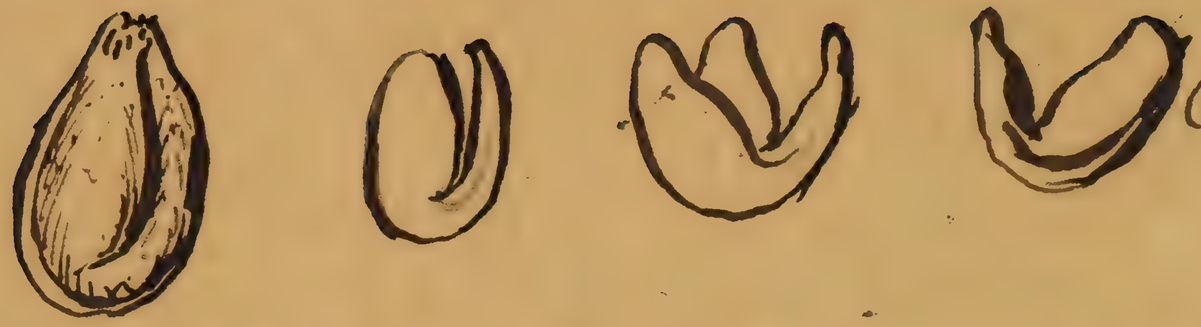
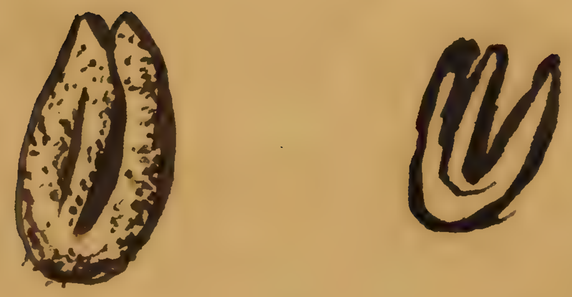


Cotyled accumbent sem. subtus
ad apicem convolutus

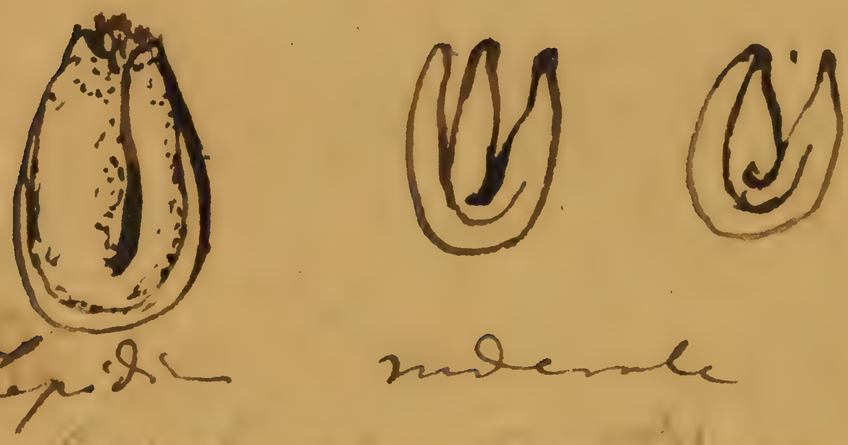
= 0 or nth = 1

Lepidium virginicum, St Louis sem. subconvolutéh
alatis



110 cotyl incumb. sem. convolutéh
nonh alatis

Lepidium ruderale, Germany



186

110 Cotyl incumb sem. convolut.
alatis

Lepidium ruderale Prairies upon Missouri

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cm
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MO

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

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cm
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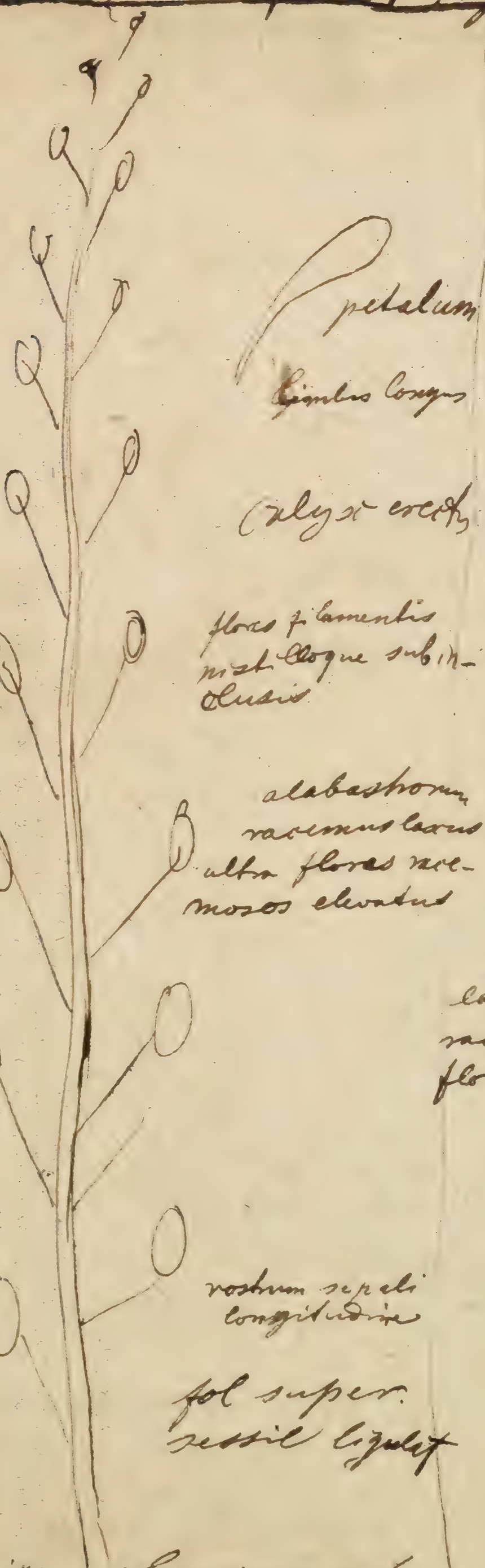
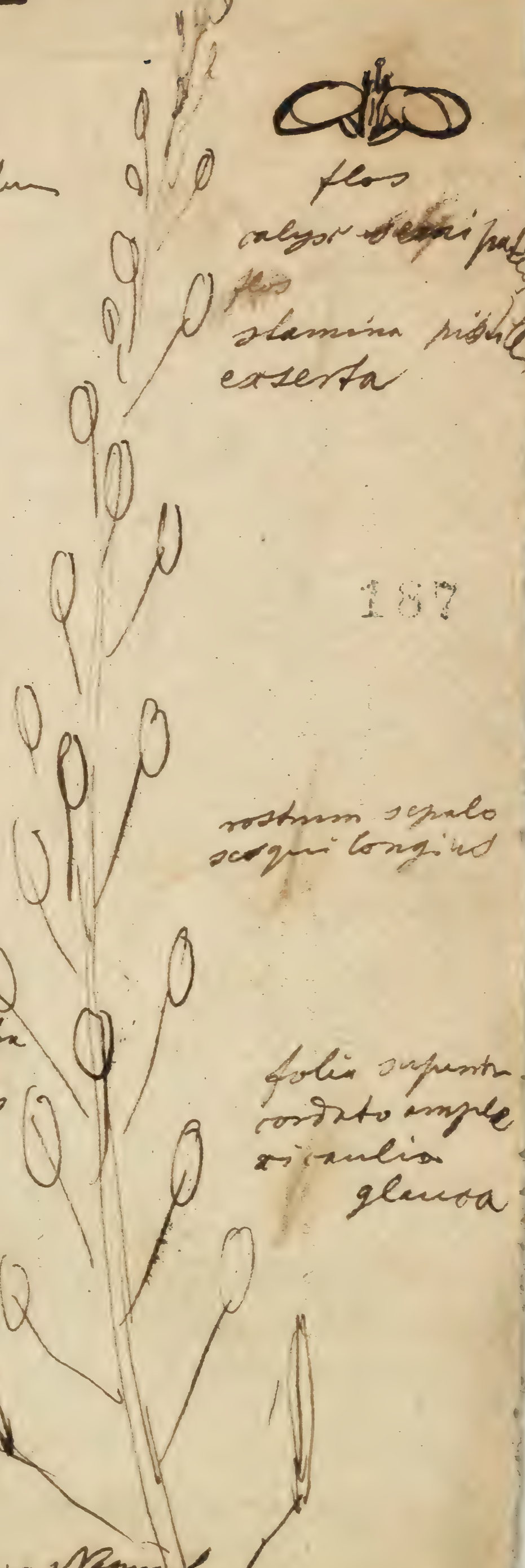
MO



Brassica oleracea L.
Napus oleracea Sch. & Sp.



Brassica Napus L.
Napus oleifera Sch. & Sp.
Rutabaga Pasq.

pistill stamens brevius

calyx patens
stamina, pistill
longe exserta

petal

rostrum ½ pala
triplo longius

floribus subfastigiatis
alabastra conferta
superantibus

fol. super
cordat amplex
caul. glauc

Brassica Rapa L
Napus Rapa Koch Syn.

Monstrosa - Matthiola

petal

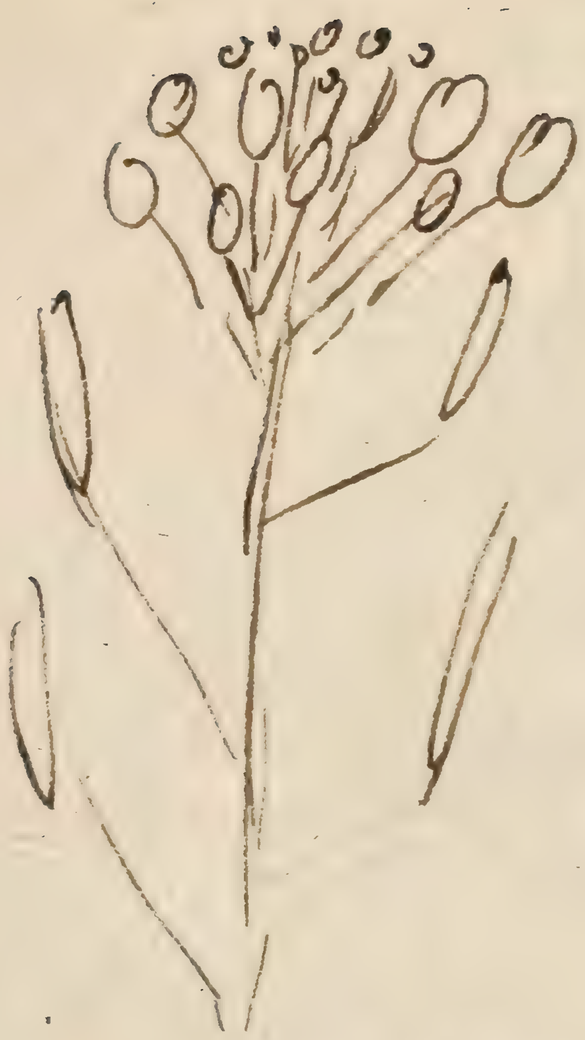
calyx patens
stam pistilli
longe exserta

rostrum ½ pala
triplo long

alabast racemo
elevat ultra
flores racemos

fol. super
oblong amplex
caulia

Napus campestris Koch Syn
Brassica campestris Reichenb
& napobrassica
Rchb. Fl. Germ. Exc.



Diplolaxis tenuifolia

Diplotaxis muralis
hort. Dipl. viminea nostra

Dissepiment
policia magis laevia

Semis Ephesco-
fusca, punctato
exsculpta

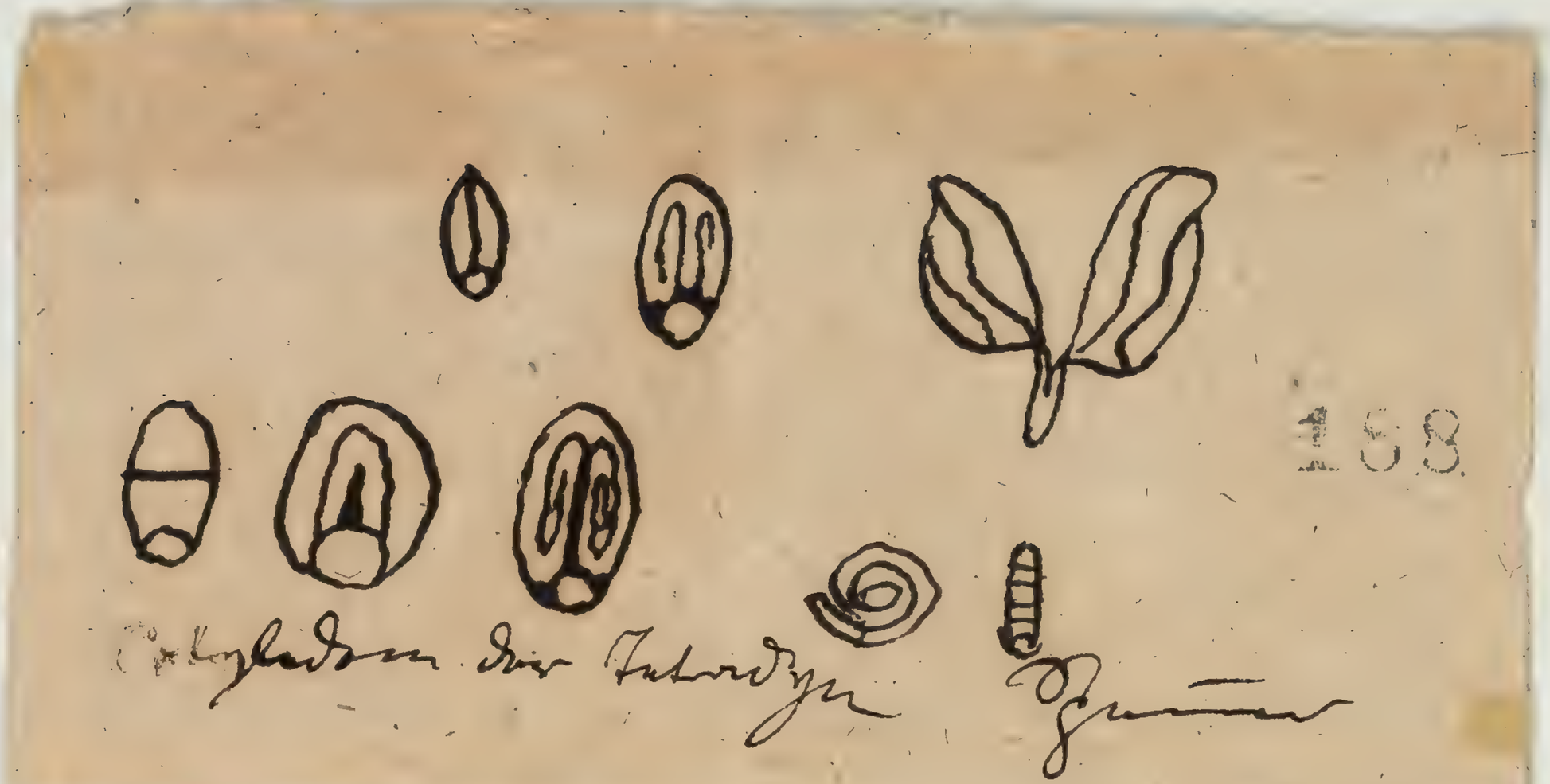
Camelina sativa Crtz et Fl
Myagrum sativum β. dentatum

Dissepiment
policia scabra

O
semi lucido rufa
laevia
pubescentia

Camelina sativa Crtz et Fl
Myagrum sativum

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN · FARLOW



168

0 1 2 3 4 5 6 7 8 9 10
cm
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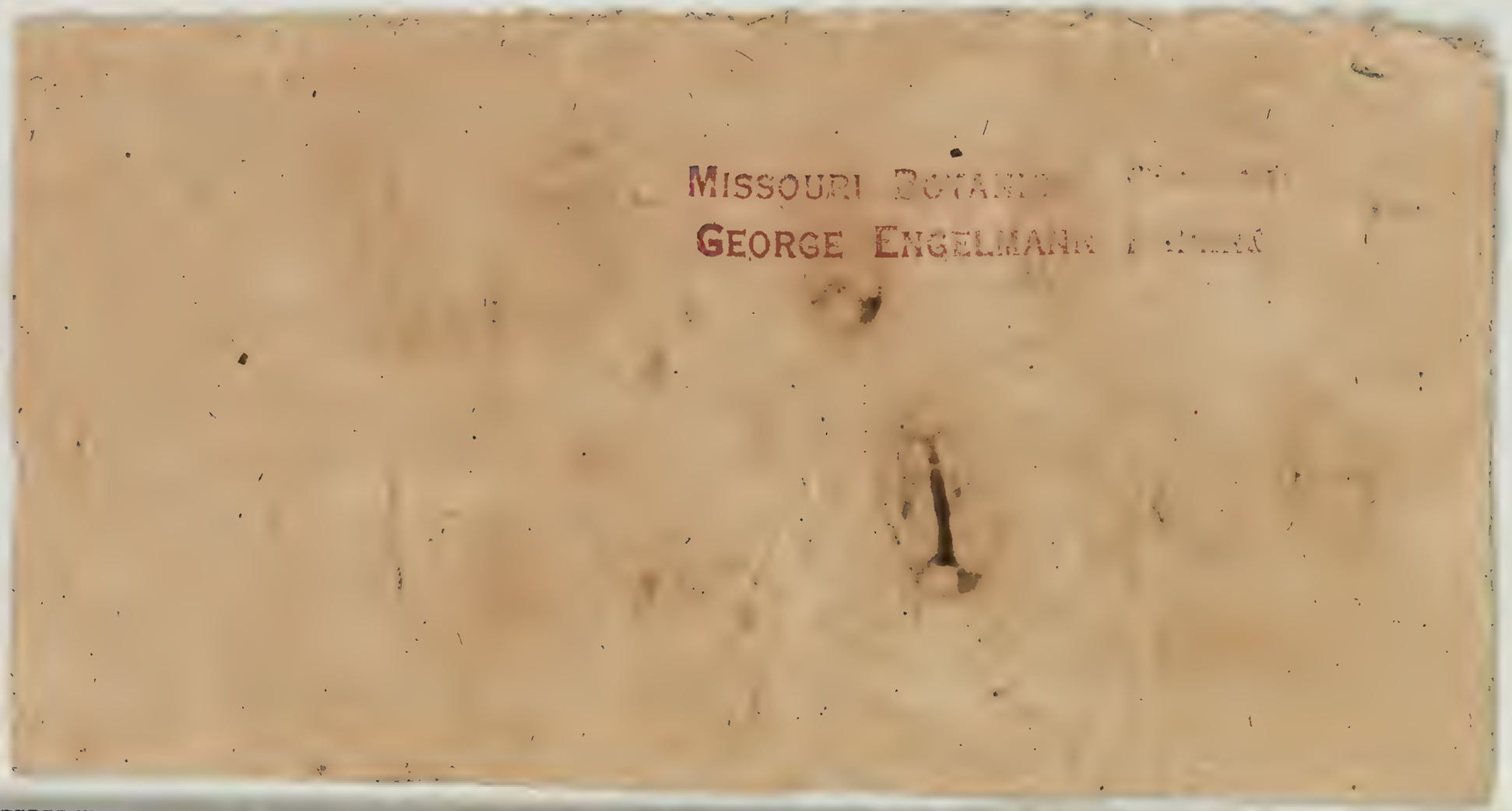
MO


MISSOURI BOTANI
GEORGE ENGELMANN

0 1 2 3 4 5 6 7 8 9 10
cm
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MO

B. Kapa

B. Napu

In undaque folia
glauca, sup. lyrato incisa
sup. cordato amplexicaulia

Reps

GEORGE ENGELMANN PAPERS

Gad. micranth.

dilatata
mural.

petal
limbus
+
calyp erect

Glenniflo

fol = spir
ligulate

Bloom

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MO

MO ®
copyright reserved
cm 0 1 2 3 4 5 6 7 8 9 10

MISSOURI PACIFIC RAILROAD.

GENERAL OFFICES—23 and 25 South Fourth Street, St. Louis.

A. Peirce, Jr., President, A.P.R.R.Co., New York.
Sam'l Hays, President. Mo. Pac. R.R., St. Louis.
D. R. Garrison, Ass't Man'gr, A.&P.R.R.Co. St. Louis.
Jas. E. Yeatman, V. Pres't, Mo.Pac.R.R., St. Louis.
John L. Dearborn, Cashier, St. Louis.
C. B. Fisk, Sec'y & Treasurer, New York,
C. L. White, Auditor, St. Louis.
A. A. Talmage, Gen'l Sup't, St. Louis.

E. A. Ford, Gen'l Pass. Agent, St. Louis.
G. H. Heafford, Ass't Gen'l Pass. Agent, St. Louis.
W. Cumming, Sup't Sedalia Sec. Eastern Div., Sedalia
A. W. Dickinson, Sup't, Western Div., Kansas City.
C. H. Welch, Sup't E. Div., St. Louis.
J. W. King, Paymaster, St. Louis.
J. A. Hill, General Freight Agent, St. Louis.
W. H. Patriarche, Gen'l Purchasing Agt, St. Louis.

St. Louis Ticket Office, 115 N. Fourth St.—D. Wishart, Agent.

Going West.				Miles.	Tkt Fare	May 23, 1875. STATIONS.		Pop. 1870	Going East.			
No19 Exp	No.9 Acc.	No.3 Exp	No.1 Mail						No.2 Mail	No.4 Exp	No10 Acc.	No20 Acc.
A. M.	P. M.	P. M.	A. M.						P. M	A. M.	A. M.	P. M.
10 30	4 40	8 08	8 53	....	.....	Lv.	**St. Louis U. D.**	Ar.	310864	6 23	6 13	8 30	4 00
11 06	5 39	.....	9 20	13	60	"	Kirkwood	"	500	5 35	.....	7 40	3 25
.....	5 41	.....	.....	14	65	"	Rose Hill.....	"	.....	.....	.....	7 30	...
11 13	5 48	.....	9 27	17	75	"	Barrett's	"	250	.....	.....	7 22	3 16
11 19	5 54	.....	9 33	19	85	"	Meramec	"	.....	.....	.....	7 16	3 10
11 32	6 11	.....	9 47	24	1 10	"	St. Paul.....	"	80	.....	.....	7 00	2 56
11 37	6 18	.....	9 52	27	1 20	"	Glencoe.....	"	200	.....	.....	6 52	2 50
11 45	6 28	.....	10 01	30	1 35	"	Eureka.....	"	400	.....	.....	6 43	2 42
11 52	6 35	.....	10 07	33	1 45	"	Allenton	"	250	.....	.....	6 35	2 36
12 02	6 48	9 35	10 20	37	1 65	"	Pacific	"	.....	4 38	4 30	6 22	2 25
P.M.	7 02	.....	10 33	41	1 85	"	Gray's Summit....	"	500	4 27	.....	5 53	P. M.
	7 12	.....	10 42	45	2 00	"	Labadie.....	"	.....	4 15	.....	5 42	
	7 22	.....	10 51	48	2 15	"	Augusta.....	"	.....	4 06	.....	5 32	
	7 33	.....	11 02	52	2 35	"	South Point.....	"	350	3 54	.....	5 18	
	7 40	10 25	11 09	55	2 45	"	Washington.....	"	3500	3 47	3 40	5 12	
	P. M.	.....	11 31	62	2 75	"	Newport	"	75	3 25	.....	A. M.	
		.....	11 45	67	3 00	"	Miller's Landing..	"	500	3 10	.....		
		.....	11 55	71	3 15	"	Etlah.....	"	25	3 00	.....		
		.....	12 08	75	3 35	"	Berger	"	100	2 47	.....		
	11 38	12 41	81	3 65	"	*Hermann.....	"	1335	2 30	2 24		
		.....	1 02	88	3 95	"	Gasconade	"	100	2 07	.....		
		.....	1 14	93	4 15	"	Morrison.....	"	450	1 56	.....		
	12 41	1 36	100	4 50	"	Chamois.....	"	400	1 36	1 30		
		.....	1 50	105	4 70	"	St. Aubert	"	200	1 20	.....		
	.....	2 12	113	5 05	"	Bonnot's.....	"	60	12 58	.....		
	.....	2 23	117	5 25	"	Osage.....	"	.....	12 47	12 41		
	1 52	2 45	125	5 60	"	**Jefferson City,**	"	4420	12 25	12 19		
	.....	3 03	132	5 95	"	Scott	"	.....	11 50	.....		
	.....	3 13	135	6 05	"	Elston	"	.....	11 43	.....		
	.....	3 29	140	6 30	"	Centretown	"	100	11 30	.....		
	3 01	3 55	150	6 75	"	**California**.....	"	1300	11 04	11 15		
	....	4 12	156	7 00	"	Moniteau.....	"	110	10 48	.....		
	3 33	4 28	163	7 30	"	Tipton.....	"	800	10 33	10 43		
	.....	5 02	175	7 90	"	Otterville.....	"	953	9 55	.....		
	.....	5 17	181	8 10	"	Smithton.....	"	400	9 40	.....		
	4 45	5 37			Ar.	*Sedalia	Lv.		9 15	9 25		
	4 50	6 10	189	8 50	Lv.		Ar.	4560	9 12	9 25		
	.....	6 28	195	8 80	"	Dresden.....	"	600	8 54	.....		
	5 36	7 03	208	9 30	"	Kr bnoster	"	2000	8 23	8 33		
	.....	7 12	210	9 45	"	Clear Fork	"	.....	8 14	.....		
	6 00	7 30	218	9 80	"	**Warrensburg,**	"	2945	7 58	8 07		
	6 15	7 50	224	10 10	"	Centreview	"	250	7 42	.....		
	6 36	8 13	232	10 40	"	Holden.....	"	1400	7 20	7 29		
	6 50	8 25	237	10 65	"	Kingsville.....	"	400	6 50	.....		
	7 05	8 40	243	10 70	"	Strasburg	"	.....	6 35	7 05		
	7 40	8 57	249	10 75	"	***Pleasant Hill.**	"	2554	6 15	6 48		
	7 56	9 12	254	10 80	"	Greenwood.....	"	400	5 55	6 13		
	8 09	9 25	259	10 85	"	Lee's Summit	"	1490	5 40	6 00		
	8 25	9 41	265	.....	"	Little Blue.....	"	.....	5 18	5 40		
	8 48	10 03	273	11 00	"	**Independence**	"	3184	4 58	5 18		
	9 20	10 35			Ar.	**Kansas Cy.**	Lv.		4 25	4 45		
	9 30	10 45	282	11 00	Lv.		Ar.	32260	4 15	4 35		
	9 40	10 55	283	11 00	"	*State Line.....	"	400	4 05	4 30		
	9 50	11 05	286	11 00	"	**Wyandotte**.....	"	2940	3 55	4 15		
	10 18	11 33	295	11 40	"	Pomeroy	"	250	3 23	3 47		
	11 00	12 10	309	11 50	"	**Leavenworth,**	"	17873	2 42	3 10		
	11 11	12 20	312	11 60	"	Ft. Leavenworth .	"	.....	2 34	3 00		
	12 05	1 10	330	12 00	Ar.	**Atchison**.....Lv.		7054	1 40	2 10		
	P. M.	A. M.				Jeff. City time.—U. S. Exp.			A. M.	P. M.		

*Stop for Meals.
Trains Nos. 3, 4, 19 and 20 daily. All others daily except Sunday.
Coupon Stations black.

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MISSOURI, KANSAS & TEXAS R'Y.

[Main Line.]

General Offices—Sedalia, Mo.

WM. BOND, Receiver.

GEO. J. FORREST, President, New York. THOS. DORWIN, Gen. Pass. Agent, Sedalia, Mo.
R. S. STEVENS, Gen. Manager, Sedalia, Mo W. P. ROBINSON, Gen. Freight Agent, Sedalia, Mo.
C. H. CHAPPELL, Gen'l Sup't Transportation " JOHN CURLEY, Gen. Baggage Agent, "
JAS. D. BROWN, Gen'l Ticket Agent, " G. H. HUNTINGTON, Gen'l Agt, No. 4 N. 4th St, St. Louis
St. Louis Ticket Office, No. 4 North Fourth Street.—C. F. FASSETT, Agent.

Going West No.3 Mail	Going West No.1 Exp	Miles.	Tkt. Fare.	May 23, 1875. STATIONS.	Pop. 1870	Going East, No.2 Exp	Going East, No.4 Mail
P.M.	A.M.					P.M.	A.M.
8 08	8 53	...	.....	Lv. **St. Louis U. D.**...Ar.	310864	6 23	6 13
				Via Mo. Pacific R. R.			
A.M.	P.M.					A.M.	P.M.
5 05	6 00	189	8 50	Ar. **Sedalia**.....Lv.	5644	8 55	9 20
P.M.	A.M.					P.M.	A.M.
10 10	10 45	0	.....	Lv. **Hannibal**.....Ar.	10125	4 30	5 45
10 48	11 23	12	.....	" Rensalier..... "	.....	3 55	5 00
11 14	11 47	19	.....	" Monroe ..... "	.....	3 30	4 25
12 15	12 49	44	.....	" Paris..... "	895	2 26	3 05
12 48	1 25	57	.....	" Madison..... "	250	1 55	2 18
1 25	2 15	70	.....	" **Moberly** ..... "	1514	1 15	1 30
1 27	2 18	72	.....	" St.L.,K.C.&N.R'y C."	.....	12 58	1 18
2 30	3 22	95	.....	" Fayette..... "	.....	11 45	12 05
3 08	4 00	108	.....	" **Boonville**..... "	4500	11 05	11 25
3 58	4 50	125	.....	" Pleasant Green..... "	.....	10 10	10 27
5 10	6 05	143	.....	Ar. **Sedalia**.....Lv.	5644	8 50	9 15
5 10	6 05	189	8 50	Lv. **Sedalia**.....Ar.	5644	8 50	9 15
6 10	7 05	210	9 55	" Windsor..... "	1000	7 50	8 07
6 30	7 25	217	9 95	" Calhoun..... "	400	7 30	7 45
7 00	7 55	229	10 50	" **Clinton**..... "	3000	7 00	7 15
7 42	8 32	241	11 15	" Montrose..... "	800	6 20	6 35
8 00	8 48	247	11 45	" Appleton City ..... "	1000	6 05	6 18
8 25	9 12	256	11 85	" Rockville..... "	400	5 40	5 53
9 00	9 25	261	12 10	" Schell City..... "	.....	5 30	5 40
9 55	10 15	279	13 00	" Nevada..... "	2500	4 40	4 30
10 55	11 10	299	14 00	" Mo.R.,Ft.S.&G. Cr "	.....	3 45	3 35
11 00	11 15	300	14 00	" **Ft. Scott**..... "	4174	3 40	3 30
11 55	12 10	319	15 05	" Hepler ..... "	.....	2 45	2 35
12 33	12 50	334	15 75	" **Osage Mission**.. "	200	2 08	1 55
1 15	1 30	348	16 45	Ar. { **Parsons** ..... } Lv.	3000	1 30	1 15
P.M.	1 40		.....	Lv. { **Parsons** ..... } Ar.		1 20	P.M.
.....	2 05	356	16 90	" Labette..... "	282	12 55	
.....	2 20	361	17 20	" Oswego..... "	200	12 40	.....
.....	2 45	372	17 65	" **Chetopa**..... "	960	12 12	.....
.....	3 25	388	18 50	" Blue Jacket ..... "	100	11 30	.....
.....	4 00	400	19 00	" **Vinita**..... "	50	11 00	.....
.....	5 15	433	21 00	" Chouteau..... "	150	9 40	.....
.....	6 10	456	22 90	" Gibson..... "	500	8 48	.....
.....	7 00	465	23 50	" Mus-ko-gee ..... "	.....	8 20	.....
.....	7 35	488	24 00	" Oke-ta-ha ..... "	.....	7 30	.....
.....	7 55	496	24 25	" Checotah..... "	.....	7 12	.....
.....	8 50	508	24 85	" South Canadian.. "	.....	6 18	.....
.....	9 33	525	25 25	" McAlister..... "	.....	5 36	.....
.....	10 42	552	26 00	" Limestone Gap..... "	.....	4 30	.....
.....	11 45	570	25 65	" Atoka.. ..... "	.....	3 45	.....
.....	12 38	590	26 25	" Caddo ..... "	.....	2 38	.....
.....	2 00	621	27 00	Ar. **Denison**.....Lv.	4000	1 15	.....
	P.M.					P.M.	

Railroad Connections.

At Sedalia and Holden with Mo. Pacific R.R. At Paola and Ft. Scott with Mo. River, Ft. Scott and Gulf R. R. At New Chicago with Leavenworth, Lawrence and Galveston R.R. At Emporia with Atchison, Topeka and Santa Fe R. R. At Junction City with Kansas Pacific R'y. At Denison with Houston and Texas Central Railroad.

Stage Connections.

At Windsor with daily line to Warsaw and Springfield. At Clinton with daily line to Browington, Osceola and Bolivar. At Montrose with daily line to Germantown and Johnstown. At Appleton City with daily line to Butler. At Nevada with daily line to Montevallo, Virgin City, Lamar, Granby, Golden City, Springfield, Bolivar and Carthage. At Parsons with daily line for Independence, Elk Falls and Elk City. At New Chicago with daily line to Fredonia.
At Humboldt for Eureka, Eldorado and Wichita. At Burlington and Muskee-gee with El Paso Mail Line for Fort Smith, Van Buren and points in N. W. Arkansas. At Caddo with El Paso Mail Line for Fort Smith Arbuckle, Etc. At Denison with El Paso Mail Line for Bonham, Paris, Clarksville and points in N. E. Texas.

☞ Trains 1 and 2 run daily; 3 and 4 daily, except Sunday

NEOSHO DIVISION.

Exp.	Miles	STATIONS.	Pop.	Exp.
P.M.				P. M.
1 45	0	Lv. **Parsons** Ar.	800	12 45
2 35	18	" Urbana... "	.....	11 55
3 03	25	" **N.Chicago** "	750	11 23
3 30	35	" **Humbolt** "	1202	10 55
4 15	49	" Neosho Fls "	532	10 10
5 10	67	" **Burlng'n** "	960	9 15
6 50	95	" **Emporia** "	2168	7 50
7 18	103	" Americus.. "	300	7 03
8 10	119	" C. Grove.. "	712	6 15
8 45	133	" Parks'ville "	150	5 40
10 00	156	Ar, **Jun.City** Lv	2778	4 30
P. M.				A. M.

☞ Both Trains daily except Sunday.

OSAGE DIVISION.

Exp.	Miles	STATIONS.	Pop.	Exp.
				A.,M.
8 00	0	Lv. **St. Louis** Ar	310864	6 13
A.M.				P. M.
7 50	232	" Holden .... "	1576	7 05
8 35	240	" Benton..,.. "	150	6 17
8 55	247	" East Lynn. "	1032	5 55
9 25	253	" Haris'nv'le "	.....	5 21
10 00	263	" Freeman... "	.....	4 40
10 25	269	" West Line. "	.....	4 15
10 50	272	" Louisburg. "	.....	3 47
11 15	278	" Sumerset .. "	.....	3 21
11 45	285	Ar **Paola**....Lv	1811	2 45
A.M.				P.M.

☞ Both Trains Daily except Sunday.

Coupon Stations Black.

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GEORGE ENGELMANN PAPERS

Geo. Engelmann, M. D.,

No. 3003 Locust Street.

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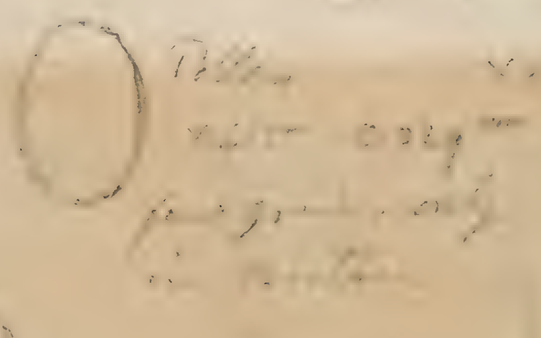

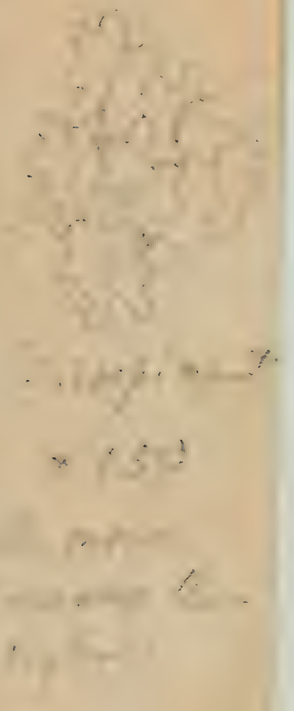

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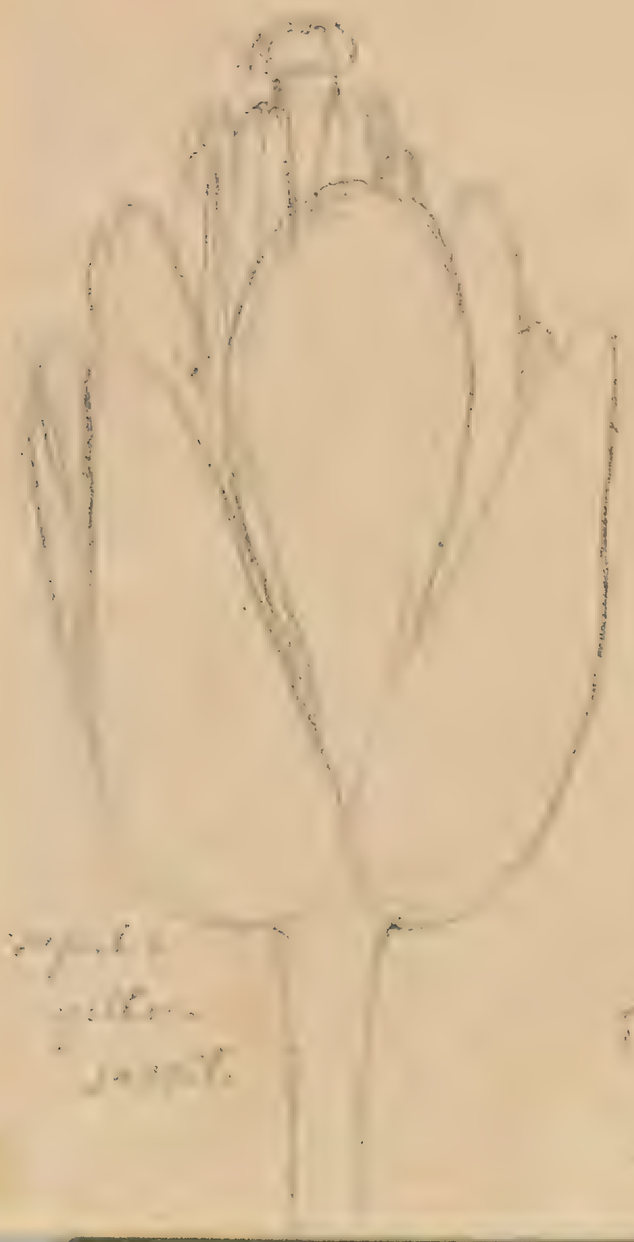

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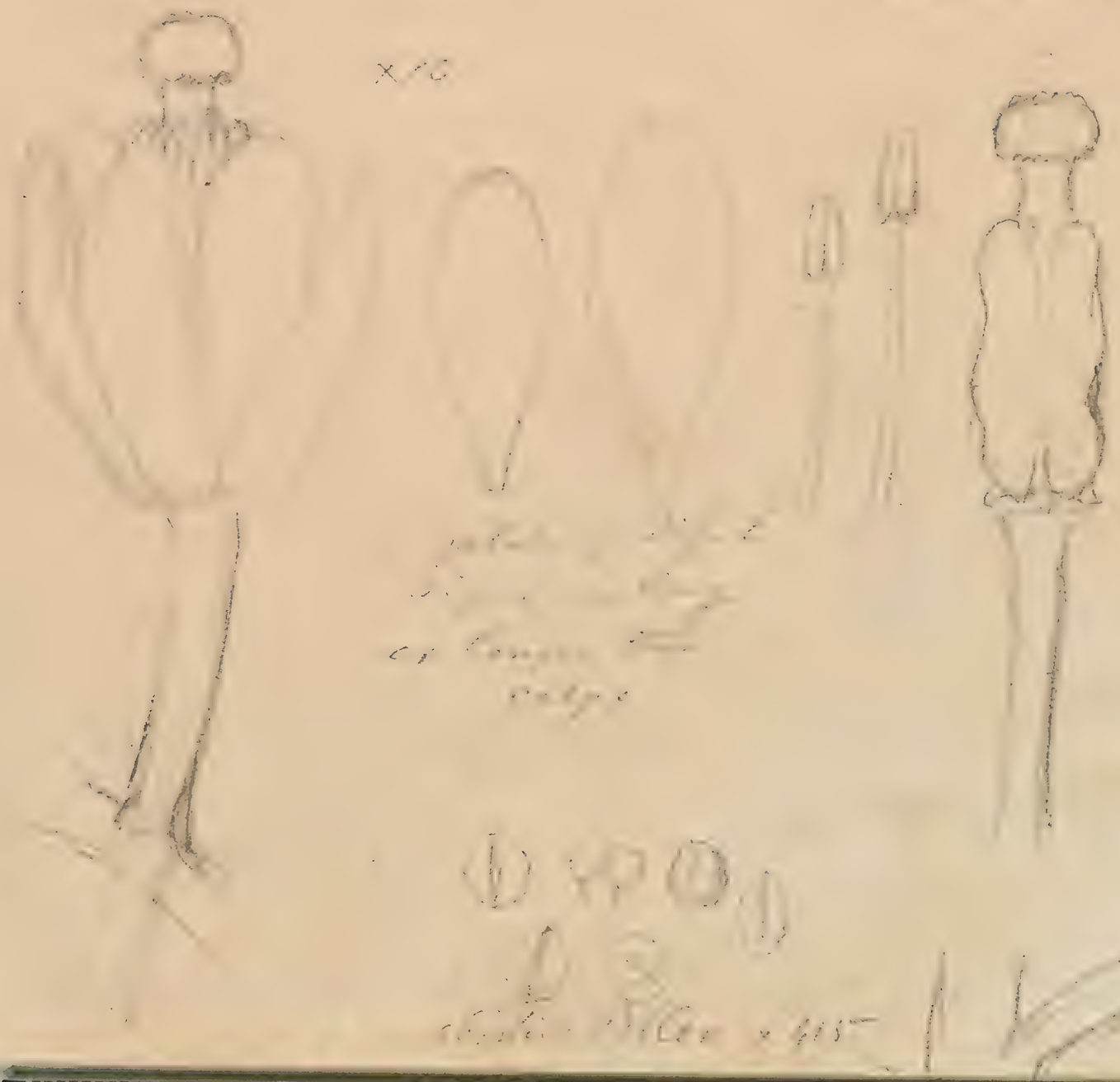

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Hooker, — während bei M. vestita nur Hooker in Greville's Abbildung (wie selbst seine Diagnose mit umrichtig gebildeter Inclination gegeben) auf jeder Seite nur 7 Sori verzeichnet sind.

Es scheint mir, daß zu dieser zweifelhaften und unsicheren Art Marsilea in Nordamerica aufgefunden wurde!

[Über die Gruppirung der Marsileen und die Stellung der Gattung, so wie über die eigenthümliche Art der Gattungs- und eigenthümlichen Vorgang der verkümmerten Archegonien habe ich in Schleiden's und Nägeli's Zeitschrift gehandelt; wo dann auch eine kurze Übersicht der bekannten Arten zu lesen ist.]

A. Braun, 1840.

Freundlich will ich Ihnen meine nähere Bekanntschaft der kleinen Cruciferen mittheilen, welche Schütze am St. Johns-Creek in der Gegend von Bartolia in Missouri entdeckt hatte, und welcher ich vor 2 Jahren den Namen Engelmannia zugeschrieben hatte. Meine Beschreibung, von Ihrer Zeichnung begleitet, war abgearbeitet, als ich von Ihnen Nachricht erhielt, daß Ihre Pflanzchen bei wahrscheinlich Platyspermum scaposum Hooker. Da ich mir aber Hooker's Fl. Bor. Amer. darüber kein Gewissheit verschaffen konnte, so blieb es Ihnen eigen. Auch der spätere vollkommene Flora Boreali-americana von Torrey und Gray versetzt ich nun, daß die mitgetheilten Pflänzchen nicht dem Genus Platyspermum angehört, sondern eine Leavenworthia ist, aber, was die Diagnosen der zwei nächstgelegenen Arten genau sind, eine dritte, neue Art dieses Genus bildet, die ich den Namen L. Engelmanni vorschlagen

1.

Die genus Leavenworthia ist von Torrey in den ann. lyc. New-York 3. p. 87. mit Abbildung auf t. 5. aufgestellt; die in John Torrey and Asa Gray a Flora of North-America Vol I. p. 89. gegebene Genuscharacter stiftet bei den überseeischen Pflanzen genau ein, namentlich das wichtigste Character des Genus "Embryo nearly straight, or with the radicle slightly bent towards the edge of the cotyledons", hinsichtlich allein ist mir von Cardamine verschieden erscheint, in welcher Gattung Michaux die mir, ihm bekannte Art ursprünglich stellte. Während nämlich bei der Gattung Cardamine und ihren nächsten (Pteroneuron, Arabis etc.) die Radicula tief an den Rand der Cotyledonen eingeschnitten ist, sodass parallel mit den Rändern der Spreite absteigend, entgegengesetzter Richtung wieder aufsteigend, dann steigen bei Leavenworthia Eaglemani die Radicula dem Rande der Cotyledonen ab, einen spitzen Winkel mit ihnen bildend, zwischen selbst einen stumpfen; der Einfügung der Spreite sind es nun Furchen oder Schlitze abwärts laufend, vorn gleichfalls, nur in entgegengesetzter Richtung, schief absteigend sind. Auch kommt die noch ab weiterer Unterschied von Cardamine der Gattung fleischlose und der fast knorpeligen Samen und die breite Spreite mit wenig zahlreichen Saaren (4-5 in jedem Fach bei L. Eaglemanni.)

In Torr. and Gray's Flora werden 2 Arten der genus Leavenworthia aufgeführt, nämlich

1, L. aurea Torr. l.c. (Cardamine uniflora Leavenworth non Michx.)

2, L. Michauxii Torr. l.c.
(Cardamine uniflora Michx. Pursh etc.)

die mitgetheilte Schärfe der Pflanze passt auf keine dieser beiden Arten. L. aurea nämlich soll goldgelbe

Petala fehlen, die Schützlerin pflanze nach dieser Beschreibung weiß ; die embryon wird als "nearly straight" angegeben, während bei der Sch. Pflanze Dicotyledonen, die Cotyledonen, wie deutlich ersichtlich, einen sehr spitzen Winkel bilden. "Siliqua slightly torulose" heißt gleichfalls nicht, die Klappen sind ganz glatt, ohne alle Torulositaet sind. "flowers in the young plant, or in dwarf specimens, on long erect naked peduncles or scapes; in the advanced state on racemes, which terminate the short ascending branches." Diese Letzteren passen nach der vorliegenden Exemplaren gleichfalls nicht eingestellt.

Mit der zweiten Art, sind die Schützlerin pflanze (L. Michauxii, Durch die "radicle oblique" abweichen, allein L. Michauxii wird durch "style almost none" charakterisirt, während die Sch. Pflanze einen deutlich ausgebildeten Griffel hat, wie er bei L. aurea angegeben wird. Die Farbe der Blüte wird bei L. Michauxii nicht auch deutlich angegeben, allein der Genus-character die Blüten im allgemeinen als gelb bezeichnet werden, was für die vorliegenden gelben Blüten. Vom Wuchs und Blattumriß wird ungefähr dasselbe angegeben, wie bei L. aurea: "Michaux states that the peduncles are radical and one-flowered, but the specimens in his herbarium are caulescent, the racemes terminating short ascending branches, and the pedicels being greatly elongated, so as to resemble scapes."

Somit stimmt bis die Aufstellung einer dritten Species, als L. Engelmanni, gerechtfertigen; ihre specifischen Unterscheidungscharacteren wären: Unterscheidbarer Griffel, ein fast rechten Winkel bildender Embryo, weiße Blüten und 2 constant "stengellose" Wurzeln.

Auch die Leavenworthia den Morphologen interessant scheint, ist aber diese, wie wenn es ein naher Verwandter, stengellose Wurzeln, der einer Crucifere ein seltsames

sind ringsherum Blätter ziehen, wodurch sie in manchen andern Familien, wo es gleichfalls vorkommt (wie bei der Primula acaulis und der Schlüsselblume, wo Vinotheca acaulis v. thyrsoflora unter die Kernstöcke) ein bekanntes Aussehen gibt. Da selten in allgemeinen die "stengellosen" Pflanzen unter den Cruciferen sind, so kann man davon jetzt noch neue Abbildungen, nämlich

1, aus der Gruppe der Arabideen:

Learenworthia [v. gleiche, wie es scheint, mit entsprechenden L. Engelmanni] ausgezeichnet durch die Drüsen, welche die Laubblätter wie erhabene Blattnerven.

2, aus der Gruppe der Alyssineae:

Cochlearia acaulis Desf. (pusilla Brot.) aus Portugal, die einzige Art einer besonderen Section der Cochlearien, die beinahe als genus unterschieden werden darf (Tonopsidium DeCand.) Die Blütenstiele ragen nur wenig über die Laubblätter hervor.

3, aus der Gruppe der Camelineae:

Platyspermum Hook. mit einer einzigen Species: P. scapigerum, deren Blütenstiele wie bei Learenworthia sehr verlängert sind.

4, aus der Gruppe der Euraricae

Moricia hypogaea Gay (Euraria hypogaea Vis.), einzige Art der Genus, aus Corsica und Sardinien, mit der eigenthümlichkeit die Samen über die Rosette hin verbreitenden Blütenstiele zuerst die Zeit der Fruchtreife unterirdisch zu machen.

Als seltene Spielart verschiedene acaule Cruciferae ist endlich noch eine Cardamine pratensis acaulis s. uniflora, welche Graf Caspar von Sternberg in den Denkschriften der botanischen Gesellschaft zu Regensburg 1815 p. 157. t. II. abgebildet und beschrieben hat.

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Nasturtium sinuatum Nutt radice bienni, caule
ramoso decumbente glabro, foliis sinuato
pinnatifidis basi auriculatis; racemis
laxis terminalibus et axillaribus floribus
(majoribus) alabastra ~~sepianatibus~~ et ~~sepalis~~ reliquis
junioribus superantibus; ~~sepalis erectis~~
petalis
spathulatis sepala erecta ovata duplo superantibus
filamentis ~~stylo~~ brevioribus, antheris lanceolatis,
acutis; ~~stylo~~ dimidia ovarii cylindrici longitudine
pedicellis fructiferis recurvis v. patulis, inferioribus
s. ligua cylindrica incurvam acutam aequantibus
superioribus brevioribus, stylo persistente
diametrum s. ligua ~~subaequante~~; semina (majora)
angulata, laevissima puncticulata

Banks of Mississippi Mai – July

Nasturtium palustre DC radice annua (raro subbienni)
caule erecto ~~patulo~~ ramoso, glabro, foliis
lyrato pinnatifidis, grosse dentatis, basi auriculatis
racemis laxis terminalibus et axillaribus,
floribus (minoribus) alabastra et s. ligulas
juniores aequantibus petalis patulis spathulatis sepala
ovata subpatentia aequantibus; filamentis stylisque
aequantibus, antheris ovalibus obtusis v. stylo
quarta
ovarii cylindrici retusi longitudine, pedicellis
fructiferis patulis, siliqua brevem cylindricam
retusam subaequantibus; v stylo persistente
vix dimidiam siliquae diametrum aequante; semina
(minora) reniformia puncticulata

Banks of stagnant or running water Mai to September

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Nasturtium obtusum Nutt radice annua, caule ramosa
ramis repe - erectis folio fasciculato
patulo, glabro, foliis ligulato spinnatifidis primis obtusis
& rotundatis obtusis, grosse dentatis v. pinnatifidis
racemis elongatis, terminalibus ss.
oppositifoliis, elongatis, & repe decumbentibus
floribus (minutissimis) albastris & siliquas
junioribus aequantibus, petalis sulphureis
sepalis ovato rotundatis multo minoribus filamentis
teretis stylum superantibus, antheris rotundatis
stylo ~~spadata~~ ovarii ovati retusi longitudine
pedicellis fructiferis ~~subereste~~ subpatulis
siliqua brevi ovata obtusiuscula dimidio
brevioribus v stylo siliqua longitudine diametro bis superante
ovx quantum siliquae diametrum aequante
semina (minutissima) oviformia punctulata

Muddy banks of streams July to Septemb

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Nasturtium sessiliflorum Nutt radice annua (v. biennis)
gluboso
caule erecto ramoso, ramis erectis, foliis inferioribus
ligulato pinnatifidis, superioribus ovatis, dentatis
in petiolum alatum decurrentibus, v ± auriculatis
racemis elongatis, terminalibus v. axillaribus, erectis
floribus (minimis) albastris brevoribus & siliquis
junioribus superantibus (inde racemus capite hemisphaerico)
apetalis. filamentis inaequis sessile
superantibus, antheris ovatis obtusis, pedicellis
fructiferis subpatulis ~~Dimidium~~ siliquam cylindraceae
siliqua longitudine diametrum quater superante persistente
obtusae diametrum aequantibus, v stylo minuto dimidio
semina (minuta) oviformia v ~~rob~~ orbiculata.

banks of stagnant or running water May to Sept

Silene bellidifolia Jacq. Spr. II, 408
" *vespertina* Retz
" *bipartita* Desf.
" *distachya* Brot.

Lusitan. Afric. bor
Ins. maris Aegali

H. B. Winkl 1822

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